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Original Articles.

GOITER.*

ANATOMY OF THE THYROID GLAND; PATHOLOGY AND TREATMENT OF GOITER.

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CHICAGO.

The thyroid gland is an outgrowth from the hypoblastic layer of the embryo forming a tube lined by epithelium, derived from the ventral buccopharyngeal wall. It consists originally of three parts, a central and two lateral portions, the mesial portion being formed by a diverticulum arising from the vicinity of the second branchial arch, while the lateral lobes are developed as diverticulæ on either side from the posterior portion of the fourth branchial arch connected with the fourth branchial cleft. The tongue—according to His—has its origin in two separate portions, an anterior and a posterior part, the former consisting of the point and body originating in the tuberculum impar situated in the floor of the mouth; the latter portion or base coming from two masses situated in close proximity to the second and third branchial arches. In due time the two separate parts meet along a V-shaped fold, and at the vertex of the V a deep depression is formed. This is recognized as the foramen cecum. Between the three outgrowths from which the tongue is derived a deep sinus exists, lined with epithelium derived from the hypoblastic lining of the pharynx, the progenitor of the thyroid gland. As the masses which form the tongue approach each other they cause the aforesaid sinus to be converted into a vesicle which maintains a communication with the surface of the tongue through the thyreoglossal duct, an unobliterated portion of the original sinus. Now the part destined to be the thyroid gland, in the process of growth sinks downward, and the thyreoglossal duct gradually grows longer until it finally forms a tube whose terminal opening is constant in the foramen cecum. This tube in some instances remains patulous to the hyoid body, and is the ductus lingualis. In a few instances the vesicle which is destined to form the middle lobe of the gland remains as a tube extending as high as the body of the hyoid bone—the ductus thyreoideus. According to Murray, the tube of the pharyngeal hypoblast, the thyreoglossal duct, is constantly pervious in lower animals, through which direct communication is maintained with the pharynx, and he cites as instances amphioxus and fishes; from this he draws the conclusion that the secretion of the gland is not injured by the gastric juices, therefore the inference was near that the product of the gland could pass through the stomach and exert its physiologic effect on the organism. He claims that the autogenetic and philogenetic history show that the gland, as we find it in man, is descended from a secreting gland which was originally provided with a duct through which the secretion passed into the pharynx just as the salivary secretion of the salivary glands still flows into the mouth, and that the ductless gland has lost its duct by the process of evolution. In tracing the farther growth of the gland, we find that the three separate portions become isolated from the hypoblast and soon form clusters of branching-cell cylinders which are divided by the ingrowth of connective tissue, supporting blood-vessels, nerves and lymphatics. The vesicles are lined by cylindrical columnar epithelium and filled with colloid substance. The colloid, according to Hürtle, is produced by the cells, in one of two ways: 1, it is formed in droplets in the cells and extruded into the alveolus; 2, whole cells break down and are converted into colloid. The cell may continue to secrete indefinitely. The exfoliated cell is soon replaced by another. Occasionally the secretion forms so rapidly as to distend the follicles and cause apparent tumefaction and pseudohypertrophy, which subsides as soon as the excessive secretion is absorbed. This would, in my judgment, explain the spontaneous disappearance of cure of some goiters by resolution. The alveoli and vesicles are surrounded by lymph spaces which communicate with the lymphatics. As there is no excretory duct present, it is fair to presume that the secretion is carried away either by the veins or lymphatics. That the lymphatics are the chief highways through which the colloid escapes was beautifully shown by Hürtle, who injected Berlin blue into the lymphatic spaces of the gland by intermittent pressure and discovered that the coloring material passed into the alveoli through the intercellular spaces; and frequently found the colloid stained lying partly in the alveoli, in the intercellular spaces, and continuous in the lymph spaces. In some instances the alveolar wall, he says, ruptures and allows the colloid to escape directly into the lymphatic spaces.

Praiseworthy and painstaking efforts have been made to analyze the constituents of the colloid material, by different chemists, but Bauman and Roos isolated what is recognized as the essential extract of the gland secretion, which they named thyroidin, it being composed of iodin in organic combination with proteid—.3 of 1 per cent. iodin. Bauman described it as a brown amorphous substance, not soluble in water, readily soluble in dilute alkaline fluid, easily precipitated from the solution by addition of acids. It contains considerable phosphorus. After having made many observations, he claims it has been positively demonstrated that the administration of thyroidin accomplishes everything that can be accomplished by thyroid therapy as introduced by Murray: 1.

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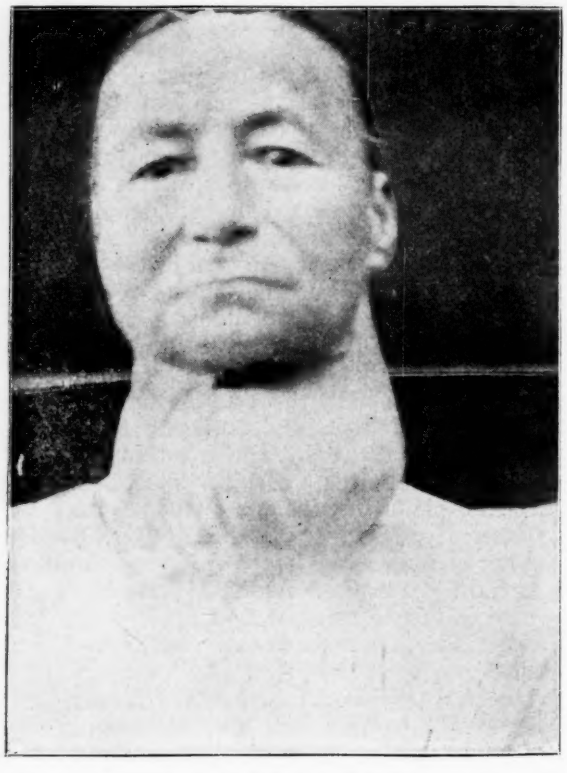
It exerts a powerful influence on metabolism in man and lower animals. 2. It exerts lethal effects in large doses. 3. It influences the growth of goiter by diminishing its size. 4. It has a specific action on myxedema. His work has been confirmed by the observations of Lichtenstern, of Koeln, and also by Ewald, Kocher and others. This discovery by Bauman leads to accurate dosing, for he has shown by investigation in hundreds of sheep thyroids, that they vary greatly in the quantity of thyroidin they contain. Hence, by feeding the gland we can not give a uniform dose of our medicament.[1]

Pathology.—"Goiter formation apparently begins by a growth of processes of the normal glandular epithelium. The first clearly visible beginning of the nodular goiter consists of single processes of differentiated epithelium in the secondary lobules. These processes gradually supplant, metaplastically, the normal tissue of a secondary or even a primary lobule. The lobules



Case 4.—Before operation.

thus change form as they increase in volume and supersede the surrounding tissue. Neighboring nodules changed in this way form multilocular goitrous nodules, either blending by a growth through the intervening septa or flattening where they come in contact. Finally the outer compressed lobules surround the central more vigorously growing ones like a shell. The metaplastic growth ends when the boundary of the primarily affected lobule is reached, growth then taking place by displacement of surrounding tissue. Diffuse goiter consists of a uniform proliferation in all the lobules. Nodular goiter arises through a variation in the vitality of neighboring parts. There exists a variety of intermediate forms."[2] In my own experience I have frequently found a marked increase of the connective tissue stroma, and also mucoid degeneration of connective tissue.

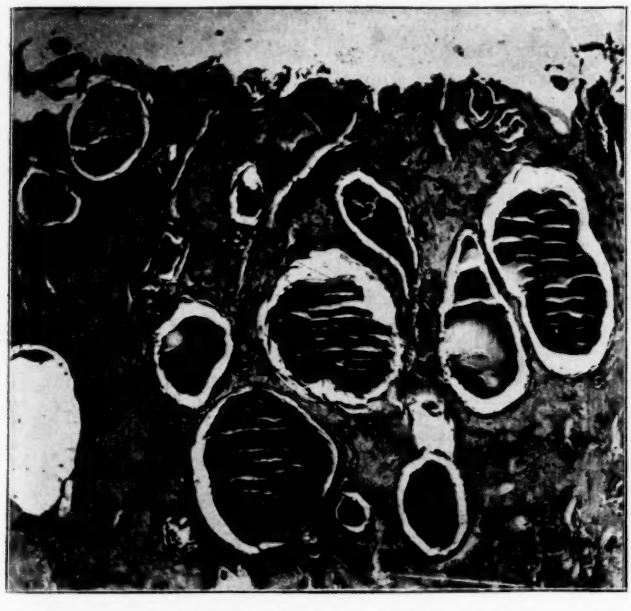
Medical Treatment.—It would be superfluous for me to review the many remedies used in the treatment of goiter and its sequalæ. There are, however, two remedial agents which loom up so prominently before the profession that my paper would seem incomplete without referring to them: the product of the thyroid gland and the chemically pure iodin. The former is of recent introduction, the latter having been used empirically, locally and internally for many years. In 1883 Oliver[3] asserted that myxedema was caused by atrophy of the thyroid gland. In the same year Kocher, Riverden and Juillard called attention to the fact that myxedema followed the complete extirpation of this gland in man, and that the disease corresponded to the idiopathic myxedema in symptoms and pathology. Their cases presented swelling and dryness of the skin of the extremities and face, loss of hair, mental hebetude, loss of muscular strength, anemia and subnormal temperature. They found mucin in the subcutaneous connective tissue spaces. Schiff[4], in 1884, taking the hint from these reports, extirpated entire glands in some cats and dogs, and portions of the gland in others. In the case of those from which the entire gland was removed myxedema promptly followed. Reasoning that

Case 4.—One week after operation.

the pathologic condition must have been caused by the absence of the glandular secretion, he transplanted the thyroid gland of sheep into the peritoneum of some and into the subcutaneous tissue of others of those from which the entire glandular structure had been removed, and soon found improvement in the symptoms, even to complete recovery. The improvement was not, however, permanent. Horsley[5], in 1889, profited by the work of Schiff and transplanted sheep's glands under the skin of man, obtaining beneficial results. About the same time H. Bicher[6] transplanted a sheep's gland into the peritoneum of man. Horsley's ideas were carried out by Lanelangue, Lagroux, Mecklin and MacPherson[7]. Bitterwirt Serano[8], introduced the gland subcutaneously over the thorax. He attributed the good effects to the absorption of the contents of the gland and not to the functional activity of the transplanted organic tissue, and demonstrated that the gland atrophied while its contents were absorbed, and at a later period the symptoms again appeared. This announcement naturally

led to the next most practical suggestion of Murray[9], viz., to administer the gland secretion by hypodermic injection. Following up this thought he made a glycerin extract and used it in a number of cases with the most brilliant success. The work of evolution continued. Next came the advice of Hector, Mackenzie and Fox[10], to feed the patients with the fresh raw glands of the sheep. They administered two glands a week to a woman aged 49, from January to September, causing disappearance of the symptoms. Creswell Baker[11] reported the treatment of a severe case in a man 53 years of age. The exhibition of the raw material caused nausea. A soup was therefore made with the gland. The patient consumed two glands a week thus cooked, from August to January. He complained of headache while taking the remedy, but the myxedema disappeared. Soon afterward White[12] of England prepared a powder from the sheep's thyroids, a 3-grain tablet of which he said represented one-sixth of the active principle of the sheep's gland. Still later, 1894, Bauman and Roos extracted the essential part of the glandular secretion, as already mentioned, thyroidin. This is put up in tablets and is being extensively used abroad[13] not only for the cure of myxedema but also to prevent its following the extirpation of the entire gland for goiter or other diseased conditions of the thyroid, and latterly also for the cure of goiter. Stabel[14] reported 85 goiters treated with thyroid gland and thyroidin, resulting in 8 per cent. recovery and 92 per cent. improved in various degrees; 25 were treated by feeding the gland tissue —one-sixth of a gland twice a week—and the remainder took thyroidin. In a general way the results were about the same, although he could regulate the dosage better by the use of thyroidin. He found that in all cases the circumference of the neck diminished slightly after two weeks' treatment. The improvement continued through a course of ten weeks, quite steadily; in some slowly, in others more rapidly. The treatment was of most service in the colloid and next in the fibrous variety. There was only one cystic goiter in the list, and this one made slight improvement. He called special attention to one case, a woman aged 50 years, who had had a third child at the age of 17 years. She claimed to have always enjoyed good health until Christmas, 1894, when she noticed a swelling in her neck, which rapidly increased; her breathing became short, she found it hard to climb stairs, her heart palpitated easily, while her strength rapidly failed. April 22, 1895, the clinical report says: She has a large diffuse goiter extending to the posterior border of sternomastoid muscles laterally, and from upper border of the thyroid cartilage above to the border of the sternum below; pulse 80; lips thick; mucosa rolled outward; dyspnea marked; edema of the head, face, neck and all extremities; movements of arms and legs embarrassed by the swelling; mind acts slowly, answers questions slowly, mental hebetude very noticeable; has little muscular strength and can not work; skin is dry and harsh; hair growing thin; circumference of the neck, 42 cm.

She was fed one-sixth of a sheep's thyroid three times a week. She complained of headache after the third dose. In six weeks all symptoms disappeared. Her strength improved and she went to work. Her lips became normal, all swelling had disappeared and she looked ten years younger. Several times the treatment was omitted six weeks when the symptoms again appeared. She now takes thyroidin tablets regularly and keeps in good health and spirits with a wonderful improvement in mental and physical activity.



Case 4.—Fibroid Goiter with large alveoli filled without colloid.

Case 4.—Showing epithelial lining of alveoli. Fibroid Goiter.

Bruns[15] of Tubingen reported eight cases with five recoveries, and Kocher claims that of the cases presented at his clinics 90 per cent. are considered medical cases and were treated with thyroidin until lately. Iodin at the present time is being used more frequently than heretofore for goiter. He is inclined to regard iodin as its essential remedy. In cases of myxedema thyroidin is administered. As to the method of its action he refers to one of his cases, to whom it had been given some time before the gland was extirpated. The gland was examined by Professor Langhans, who reported: "Can not differentiate blood-vessels or lymphatics. In the broadest septa only can vessels and connective tissue be recognized. Alveoli of different sizes are distinguishable; epithelium cuboid or flattened. Many alveoli are about two-thirds filled with colloid, some containing only a drop of colloid clinging to their sides or lying loosely within. In the large alveoli mucin is present. Some contain small particles of apparently degenerated colloid."

It has been my opinion for some years past that iodin alone was the essential medical remedy for the removal of such goiters as could be influenced by medicine, and with this idea in mind I have, during the last four years, treated three-fifths of my cases with iodin, and two-fifths with the thyroid preparation, and have found in thirty thus treated that the patients who received the iodin improved more rapidly than the others, and during the last three months my patients have been taking iodin, only accompanied by tonics as required. Few of them can take iodin steadily for many weeks, without showing evidence of weakness; slight anemia is likely to follow, with increased rapidity of the heart's action; often slight dyspnea and headache with diminution of bodily weight. I therefore always weigh my patients when the treatment is commenced, and frequently afterward. The prescription is as follows:

Iodinii (crystals)	gr. ii
Pot. iodid	gr. iv
Alcoholis	ʒi
Syr. simplicis	ʒi
Aquæ destil.	ʒii

Administer a teaspoonful in a wineglass of water, one hour after each mealtime. After about two weeks, sometimes from the beginning, an iron tonic is given; Blaud's pill, ferri subcarbonate, or tincture of iron, and if the patients are weakening rapidly, strychnin combined with calisaya and iron, the iodin being discontinued for a week or two at a time. After three weeks there is usually a perceptible difference in the size of the goiter. In six months many of the goiters disappear, others are reduced to from one-half to one-eighth their original size. Many patients breathe better and their voices improve. Some do not yield to the treatment. Three months' trial is sufficient in such cases. If the goiter is cystic, or if fibrosis is extensive and the goiter interferes with the voice, respiration or heart's action, or if we have a large goiter accompanying Graves' disease to deal with, and no contraindication exists, I advise operation. We have the choice of the following mentioned methods and will choose according to the case in hand and our judgment as to which is the best operation to resort to, viz.: 1. Interstitial injections of iodin. 2. Aspiration of cyst followed by injections of iodin, or various irritating substances. 3. Ligature of the large blood-vessels supplying the gland. 4. Exothyropexy. 5. Removal of the superior middle and inferior cervical ganglia of the sympathetic. 6. Extirpation. 7. Enucleation.

Interstitial Injections of Iodin.—It may be objected that this method should not be dignified with the name of operation. I, however, hold that it is one of the most dangerous procedures, leading to more serious results, proving more frequently fatal than other operative methods. This should certainly cause us to look on it as a procedure not to be underestimated as a dangerous operation. Hayman[16] reported a list of sixteen cases of death following this procedure. The fatality was caused by thrombosis and multiple emboli.

Aspiration of Cysts and Injection of Iodin, Etc.—This method has been resorted to by prominent surgeons the world over. Statistics given from Brun's and Bilroth's[17] clinics show 70 per cent. cure, with a mortality of 2 per cent. The disadvantages are: 1, anxious symptoms during the first few days; 2, suppuration; 3, slow shrinkage; 4, occasional dangerous and even fatal asphyxia. The contraindications given for injections are: 1, paralysis of the vocal cord; 2, great flattening of the trachea, which does not improve after evacuating the cyst; 3, multilocular cysts; 4, bleeding cysts; 5, those which do not collapse after puncture. In all such incision and drainage was resorted to. This latter plan I urgently object to except in rare instances, when enucleation is impossible—on account of the danger of infection and its possible sequelæ, the prolonging of the healing process and the inconvenience to the patient. Enucleation of the cyst in the absence of inflammation in many cases is a comparatively simple procedure, is radical, and leads to prompt cure. It is therefore preferable when the foregoing contraindications exist to the iodin or other injections. I should certainly advise aspiration in all cases in which respiration is severely interfered with and instantaneous relief is demanded to save the patient's life; also in simple small cysts and during the process of enucleation if the symptom of asphyxiation was pronounced, or if the cyst was too large to pass through the external incision. Cysts are generally easily shelled out, especially in the absence of the inflammatory adhesions.

Ligature of the Blood-vessels.—This operation is not resorted to very often as a primary operation, for the reason that the other operations are considered more serviceable. In case of inflammatory and very vascular goiters with dense adhesions, it would certainly appear to be a legitimate operation. Its field for application has, however, become much contracted of late.

Exothyropexy.—This was introduced by Jaboulay. It consists of cutting into the capsule of the goiter, exposing the latter to the air by stitching it to the margins of the external wound. He[18] reported fourteen cases of complete recovery, and considers the operation of value in cases surrounded by a network of vessels of large size, or in cases in which the growth is in dangerous relationship with the trachea and mediastinum. He attributes the cure to trophic influences, and partly to blood and lymph changes, and has noticed that the surface of the gland becomes very moist, owing to the exudation of its secretion. He thinks that this exerts a wholesome influence on Basedow's disease. The chief objection to this operation is the danger of infection, as the goiter is exposed to the air and it is necessary to keep the wound open for days.

Total Resection of Superior Middle and Inferior Cervical Ganglia.—Dr. Thomas Jonnecso, in Bucharest, Aug. 17, 1896, removed the superior and middle ganglia on both sides in a case of Basedow's disease. The exophthalmia disappeared, the goiter atrophied and the patient improved to such an extent as to encourage him to repeat the operation in other cases. He operated on two others, removing the inferior ganglia in addition to the others, on both sides, with the same results. The operation was also undertaken by him for epilepsy. The skin incision is made along the posterior border of the sternocleidomastoid muscle, extending from the mastoid process to the middle of the clavicle. The platysma, external jugular veins, and the branches of the superficial cervical plexus are severed, the deeper cervical fascia is next cut through; the sternocleidomastoid muscle with omohyoid and sheath containing the deep vessels and nerves are drawn inward with retractors. The sympathetic nerve filaments are searched for in the middle portion of the wound behind the vessel sheath, close to the phrenic nerve. The nerves are traced to the ganglia and the latter excised. The most difficult part is the removal of the inferior ganglion.

By far the most important, most frequently resorted to and most thoroughly established operations are ex-

tirpation and enucleation. The operations are being done more and more under local anesthesia by Kocher, Shede, Keene and others. Kocher especially extols the local anesthetic and claims to have used it in the majority of his last series of 450 cases. The skin incision is entirely painless—using cocain or Schleich's No. 2 solution—the unpleasant experience to the patient being the peculiar sensation of pressure from the manipulation of the surgeon's fingers and instruments. There is no severe pain produced. The advantages of local anesthesia are: 1, breathing is easier; 2, there is less venous congestion, consequently less hemorrhage; 3, the patient can phonate while the operator is working near the recurrent laryngeal nerve—a source of great comfort to the surgeon as it aids in preventing damage to the nerve. It is of especial advantage when operating in Basedow's disease and tracheal stenosis. In the latter condition Kocher said he had often found it necessary, in his first 1000 operative cases, to do tracheotomy after general anesthesia, a procedure which presents great difficulties when the goiter is lodged in front of the trachea and behind the sternum. In fact, in some cases it is impossible to do tracheotomy before the tumor is lifted from its bed, and then the occasion for entering the trachea seldom exists as the impediment is removed. My first serious case was of this variety, in a woman 38 years old. All three lobes were greatly enlarged. The central lobe was the size of a hen's egg, and its lower third sank deeply behind the sternum. The patient had taken a few whiffs of chloroform when respiration and heart's action ceased almost simultaneously. The lips were deeply cyanosed. There was no possibility of reaching the trachea to do a tracheotomy, and I felt that my patient was gone. The veins of her neck were all enormously distended before the anesthetic was administered, but now stood out like large cords. Realizing that no time was to be lost, I peremptorily ordered my assistants to drop the patient's head below the end of the table and practice artificial respiration while, with great rapidity, I drew my knife across the tumor in Kocher's line, regardless of vessels, speedily opened the capsule and with vulsellum forceps and finger lifted the hard nodule out of its shell, thus removing the constriction of the trachea. While my assistants continued the work of resuscitation I quickly seized several veins with forceps to prevent the ingress of air. After a few moments the patient inspired voluntarily.

In removing the goiter it is considered good practice, as suggested by Kocher, not to cut the sternocleidomastoid, sternohyoid and sternothyroid muscles, unless the tumor is so large and hard that it can not be lifted out of its bed through the opening made by retracting these muscles. In this case it is advisable to sever them only near their upper attachment, so as to preserve their nerve supply intact. The omohyoid need not be cut. By taking these precautions we prevent the unsightly deformity of a deep depression. The third important step is the luxation of the tumor. It is also important to tie all accessory veins before cutting into the capsule. In lifting the tumor, it is carried forward and turned to the opposite side; this makes the ligaturing of the vessels easier, and the pulsations of the inferior thyroid artery can be felt with the finger; it can be easily isolated from the venæ thyroidæ interna descending from the lower pole of the gland. The artery is to be tied between two ligatures.

Enucleation.—In enucleating, Kocher claims it an improvement, after cutting through the capsule, to expose the isthmus and ligate the venæ communicantes superior and inferior at the upper and lower borders and also the branches of the superior thyroid arteries to the isthmus and pyramidal lobe. When the isthmus is thick and large he advises crushing it with strong forceps, to force out any colloid present; this simplifies ligating and also prevents stump necrosis. In all clean cases of excision and enucleation, salt water is applied to the wound with gauze sponges. In septic cases antiseptic solutions are used and secondary stitching is done.

I have seven cases to report at this time, six of them representing the past year's operating work for goiter, and one of special interest is presented with the others, viz., a case of Grave's disease with a large goiter and exopthalmus.

Case 1.—Miss B., aged 18 years, of medium height and weight, has been afflicted with a goiter for eight years. Her family history is good. She presented herself at my clinic two and a half years ago, with exophthalmos, showing von Græfe and Stelwag's symptoms. Her chest was then contracted and concave, she was round shouldered, the chest circumference above the nipple line was 30 inches in expiration, 32 in inspiration, and the pulse 140. She had slight tetanic tremors of the legs and arms. Vision was R. E. 5/20; L. E. 6/20. She had to hold a light between her eyes and the book when reading, and even then the letters appeared indistinct. The fundus was congested and the veins greatly distended. She said that she was often obliged to get out of bed at night to struggle for breath, and could not lie flat in bed. The goiter was very large and occupied both lobes and isthmus. The right one involved the entire right lobe, the left one being much smaller. The larger tumor extended high on the neck, above the thyroid cartilage. Its lower border was behind the sternum and could not be felt even when her neck was extended to the utmost.

As she had run the gauntlet of nearly every dispensary in Chicago and had been treated by over thirty doctors, all representative men, and had not improved, my advice to her was to have the goiter removed. She consented and I proceeded to operate, assisted by Drs. D. Eisendrath, F. S. Walls and A. J. Brislen. Chloroform was administered and by careful dissection I succeeded in enucleating and partly extirpating the right lobe. It was reniform in shape, measuring 6 by 2½ by 2 inches. Its lower end dipped an inch and a half below the upper border of the sternum. The trachea was flattened and an accessory lobe extended from the main mass behind the trachea so that the tracheal tube was clamped between the large tumor and its accessory portion. The goiter was of the fibrous type, fibrosis having been exaggerated.

The patient walked out of the hospital on the fourth day. Her improvement was simply marvelous. In eight weeks the circumference of the chest increased three inches, and she walked almost erect; her pulse rate was 96. The nervous symptoms had all disappeared. The exopthalmia was improved, and she could read with the light behind her. In removing the growth the greater portion had to be extirpated, but at the posterior part, where it was in contact with the recurrent laryngeal nerve, the capsule was shelled away from the goiter and cut off in order to protect the nerve from injury.

Case 2.—A male, aged 48 years, of medium size, weight 140 pounds, has had a swelling at the root of the neck for eight years. At the time of examination there were three large nodules projecting from the

thyroid gland, one from the middle and two from the right lobe. They all felt as hard as bone, and one might have thought they had undergone ossification. The central node extended downward into the thorax. Its lower portion was wedged firmly between the sternum and trachea. The patient breathed with difficulty; his voice was stridulous and husky. He said he felt as if there was a rope around his neck, ready to choke him. At different times during the past six months it seemed to him that he was about to strangle. It takes him a long time to ascend a flight of stairs, as he has to rest frequently in the ascent. His hair is prematurely gray, his vessels atheromatous. He has been subject to rheumatism for about ten years, and several times had acute attacks which confined him to his bed from two to six weeks. His joints are not supple, and his movements

Case 7.—Before operation.

are inelastic, while he is feeble for a man of his years. The urine is normal, sp. gr. 1020.

I advised removal of the goiter. A week later, after having visited other dispensaries and surgeons, he returned to me for operation. He was too nervous to submit to the knife under local anesthesia, so we chloroformed him, and I made Kocher's incision low down, tied the veins double and cut between the ligatures. The sternohyoid and sternothyroid muscles were just exposed when our patient suddenly became cyanotic and stopped breathing. The heart ceased beating almost simultaneously. I hastily opened the capsule and lifted the tumor from behind the sternum while my assistants, Drs. D. Rogers and A. J. Brislen, practiced artificial respiration. Very soon the lips became a shade paler, with return of the radial pulse, and I continued removing the three nodules without further anesthesia. The central tumor had to be excised, as it was firmly adherent to the capsule. The trachea was flattened almost into a ribbon, and did not assume its normal shape at once after the operation. We had considerable difficulty in controlling deep hemorrhage. One small artery lay in such close contact with the trachea that it could not be safely ligatured. I seized it with artery forceps parallel with the tube; the forceps was left in the wound thirty-six hours. The patient left his bed on the third day, made a prompt recovery and was discharged cured in two weeks.

CASE 3.—A male, aged 24 years, weight 160 pounds, and height 5 feet 8 inches, of nervous temperament, a piano tuner, single, and member of a church choir, and with perfect family history, had never been ill. Three years ago his neck began to swell at its middle lower portion, and has steadily increased. During the first six months it has interfered with his voice, causing it to "break" while singing. He is hoarse at other times, and occasionally his breathing is embarrassed. He wanted an operation done a year ago, but could not summon courage to undergo the ordeal. I chloroformed him and enucleated a cyst three inches in diameter, filled with colloid and containing crystals of cholesterin. The

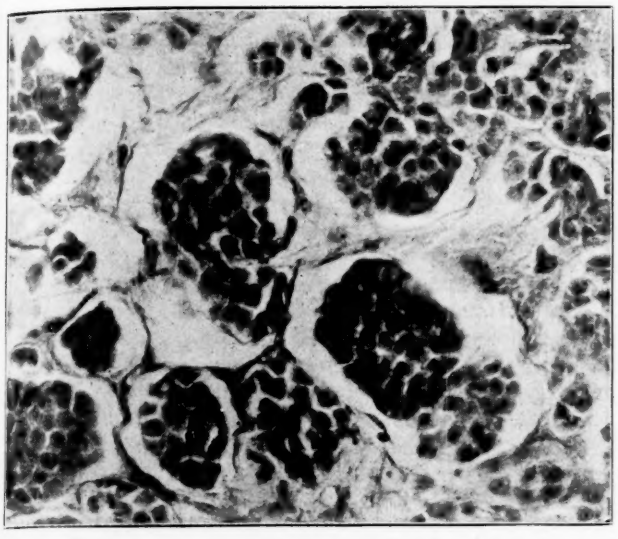
Case 7.—Six months after operation.

cyst grew from the right lobe upward; its wall was one-eighth inch thick. The patient walked about the hospital on the fourth day, and was discharged cured on the thirteenth day.

CASE 4.—A woman aged 59 years, Bavarian, of medium size and weighing 120 pounds, had a goiter from the age of 11 years. She says she has not been able to bend her neck for forty years. During the last year she has noticed a rapid increase in the growth. The superficial veins of the neck are large and tortuous, stand out prominently, like cords one-fourth inch thick. A large plexus of these covers the surfaces of the tumors, extending downward nearly two inches over the sternum, in the form of a V. The tumors are extremely dense and hard. One, as large as my two fists, is on the left side, extending upward; several large nodules are on this side and still others beneath and between them. The voice is stridulous and she complains of great weakness and a constant fear of imaginary impending danger. Last year I treated her for a Colles fracture, and she was a long time recovering the use of the arm on account of a tendovaginitis and rigidity of the muscles

which followed the injury. Operation was done under chloroform—a very bloody enucleation. The patient left the table with a strong pulse, went home well on the seventh day. Her neck is now quite flexible. (See illustration, Case 4.)

Case 5.—A woman of 19 years had a hard goiter consisting of three large nodules. The central one at the



Case 7.—Alveoli enlarged; cells also greatly magnified.

root of the neck dipped down behind the sternum. It was about the size of a large chestnut, interfered with respiration and made her excessively nervous. She readily consented to operation and I removed the nodules by enucleation. She walked to the street-car

Case 7.—Colloid Goiter. Smooth spots occasioned by mucoid degeneration of connective tissue. Numerous small cells can be seen filling alveolar spaces. In some spaces the cells have partly degenerated into colloid.

three hours after the operation. The wound healed promptly by first intention.

Case 6.—A woman of 43 years presented a cyst three inches in diameter, occupying the central portion of the neck, its lower portion wedged between the trachea and sternum. It was easily enucleated, but we had considerable difficulty in controlling the hemorrhage. The deep veins were unusually large and tortuous. They were tied double and severed between the ligature. She went home cured on the twelfth day.

Case 7.—A woman of 58 years, presented a large formidable goiter on the right side of the neck, so large that she was compelled to constantly carry her chin in elevation. The goiter first appeared during her thirtieth year. At the time of operation the larynx was pressed over an inch to the left of the median line. She has not been able to lie flat for ten years, always had her head and shoulders elevated with pillows. The goiter was as large as my two fists after it was enucleated. (See illustration 7.) She is now perfectly well and her neck does not show that she ever had a goiter.

I have microscopic sections of Cases 4 and 7, for which I am indebted to Dr. Fred Noyes, professor of pathology in Northwestern Dental School. They are beautiful preparations and show the transitional stages of the epithelial cells before they are converted into colloid. (See illustrations.) In many alveoli the epithelial lining has been completely destroyed by pressure necrosis and colloid degeneration. In some alveoli and tubes the epithelial lining can still be seen. Case 4 shows the extensive fibrosis and large alveolar spaces filled with colloid. One we may safely call colloid, and the other fibroid, goiter. All but one of these patients were anesthetized with chloroform. One only was willing to submit to operation under local anesthesia. Hereafter I shall insist on using a local anesthetic at least in the severe cases. Two of these patients had a very close call and in view of the experience of such operators as Kocher, Shede and others, with local anesthesia, we are not only justified in urging it on our patients but it becomes an imperative duty so to do.

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DISCUSSION.

Dr. C. F. Wahrer, Fort Madison, Iowa—In treating goiter cases, I have been in the habit of using the desiccated thyreoid glands as well as the cataphoric administration of potassium iodid, and the results have been, in the light of our medical literature on these cases, quite successful. From 20 to 30 grains of thyreoids in four or five doses daily, intermitted for a time, when there is headache due to the medicine, is what I usually give per os, and daily or triweekly sitting with the cataphoric exhibition for five minutes of potassium iodid, has been usually successful in from six weeks to as many months in removing some very large goiters. In connection with this I desire to relate one remarkable case of a young lady 22 years of age, a feeble woman of phthisical history, who had a unilateral right-sided goiter as large as a hen's egg. I used the treatment just related, namely, five-grain doses of thyreoids five times a day, and the galvanic battery with cataphoric use of iodid. Of this last she got but six sittings in five weeks, as she did not come to the office as directed; yet this large mass disappeared entirely in the fifth week. I would like to ask how to account for the rapid disappearance of this large mass in so short a time with such little medication and few sittings of electricity? This was sixteen months ago, and there is not the slightest recurrence. There is also a general improvement in health, regulation and increase of menses and nutrition, as well as womanly development.

DR. A. H. LEVINGS, Milwaukee, Wis.—There are a few points that I desire to make in the discussion of this paper, and one is that any one or all of the tissues normally making up the thyroid may be so increased in number as to constitute a goiter. Thus we have a fibrous goiter from an increase of the fibrous tissue, or a vascular goiter from an increase in the number and size of the vessels, both arterial and venous, or a parenchymatous goiter when all the tissues have undergone hyperplasia, or a cystic goiter when the number and size of the follicles have been increased and their walls more or less absorbed.

The thyroid extract treatment is applicable only, and the iodin treatment is of the greatest benefit, in parenchymatous goiters. My observation and experience have been that the ligation of the four thyroid arteries is of no value as a curative treatment. I have frequently seen this operation in Billroth's clinic and have performed it myself, and, while, immediately after the ligation in vascular goiters, all pulsation ceases and you can squeeze the blood out of the goiter as you would water out of a sponge, and you are possessed of the belief that you have permanently cured the goiter, nevertheless after a few weeks the circulation will gradually return and in a few months the condition is as bad, or nearly as bad, as before the operation.

In regard to the control of hemorrhage: there should be little or no hemorrhage in the removal of a goiter if it is properly done. There are three cardinal principles which are of the greatest importance, and which should always be observed in the removal of a goiter. The first is, make a large incision so as to freely expose the gland to be removed—through a large incision you can control or prevent hemorrhage, avoid complication and do your work with greater ease and very much more quickly. The second is, be sure you are down to the true capsule of the gland before you attempt to enucleate. The planes of fascia which cover the capsule can be picked up with toothed forceps and should be divided down to the capsule, which can not be picked up and which is a part of the gland, and in which course a great many veins of considerable size. Perhaps the greatest mistake of young operators is that they do not recognize this principle, do not reach the surface of the gland, and in their attempts to enucleate go wandering hopelessly about in the connective-tissue planes outside the capsule. The third cardinal principle is, that after you have reached the capsule the gland should be shelled out with the finger and no tissue cut that has not first been double ligated. This last principle was insisted on by Billroth, and if strictly adhered to will almost completely prevent the loss of blood.

DR. F. C. SCHAEFER—In reply to the first speaker's question, I should say that the electrical application stimulated absorption. As to ligating the larger vessels in Dr. Leving's own case, it appears that the ligature did not bring about a permanent cure. While advocating enucleation and excision, I do not oppose ligature or any of the other operations, with the exception of the removal of the ganglia of the sympathetic, the value of which is not established and is somewhat doubtful. I did not go into a classification of goiters, for lack of time.

PREVENTION AND TREATMENT OF CANCER OF THE UTERUS.*

BY A. LAPTHORN SMITH, B.A., M.D., M.R.C.S., ENG.

MONTREAL, P. Q.

It takes a long time to get rid of an idea which has been handed down to us for many generations, and which has grown up with us from our earliest years of professional knowledge. Two of the most striking instances of the tenacity with which traditions cling to us are the belief in the heredity of consumption and of cancer. Notwithstanding that every physician can remember cases in his own practice, of both these diseases occurring in patients whose fathers, mothers, grandfathers and grandmothers were absolutely free from any cancerous or tubercular taint, still the constant assertion of its heredity by the insurance companies and the text-books has kept us from seeing what has been evident to many of the laity during the last twenty years, that these diseases are not hereditary, but that they are on the contrary among the most contagious known.

The writer has endeavored to look at this important question with an unbiased mind, with the result that in his experience of cancer cases more than half of them were absolutely free from any family history of it for three generations back. Cancer of the uterus has been proved by numerous experiments to be a contagious disease, probably due to a microbe which does not flourish on healthy tissues, but which luxuriates on tissues of low vitality, such as cicatrices, or on women whose vitality is below par. If the writer had any doubts on the question of its non-heredity—which he has not—a case like the following would almost alone suffice to convince him.

About ten years ago a woman 60 years of age, died of cancer of the uterus. Neither her mother nor her grandmother had had any sign of it. Her three daughters, all married and the mothers of families, have passed the age of forty, without showing any signs of it. But the nurse who attended their mother, and was in no way related, but on the contrary a perfect stranger, subsequently contracted the disease and died. Since then the writer has seen two other cases, almost similar, in which the nurse and not the daughter has contracted the disease.

The awful but convincing experiment of removing a piece of cancer of the breast and inserting it under the skin of a healthy woman who was subsequently affected with the disease and for which a noted Paris surgeon was very properly dismissed from his position, need only be referred to in passing.

The Prevention of Cancer.—Is cancer of the uterus preventable? The writer firmly believes it is. If we believe, as Emmet has conclusively proved, that cancer of the cervix almost always begins in the cicatricial tissue in the angle of a laceration, then by removing the cicatricial tissue and repairing the laceration, we would put a stop to this dreadful disease, at least so far as the cervix uteri is concerned. And this is just what has happened in the author's own experience. He has made it his practice at his clinics and hospitals to repair every lacerated cervix that comes before him, with the result that out of five thousand gynecologic cases, of which he has a complete history, there are at present less than twenty-five of marked laceration of the cervix remaining unrepaired. The result is most striking: instead of having two or three cases a month, of cancer of the uterus, as he had ten years ago, he now only sees three or four in a whole year. Since writing this paper he has seen the same observation made by other writers in America, who also attribute the great falling off in cases of cancer of the uterus to the widespread belief in the importance of having all lacerations of the cervix uteri repaired early, held by the majority of the general practitioners all over this continent. On glancing over the medical journals of European countries, on the contrary, we see it constantly stated that cancer of the uterus is steadily increasing, which is only what we might expect where there are thousands of physicians who have never heard of the immortal Emmett or of his life-saving operation.

So much and so briefly for the soil on which the cancer microbe grows; now for the microbe itself. Supposing that the disease is, as the writer believes it, one of the most contagious when planted on the proper soil, do physicians and nurses take sufficient precautions to disinfect their hands after touching a cancerous pa-

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

tient? In the pre-antiseptic days the writer has seen more than one great surgeon go from one patient to another with no other cleansing of the examining finger than wiping it on a towel which he carried in his hand. Indeed, it is said, and it is quite probable, that a royal visitor to one of the great London hospitals, on inquiring from the patients the nature of their disease and whether they had any complaints to make, was told by the first patient that he had a cancer of the rectum, and by the second that he had chancres; these two had no fault to find with their treatment, but on asking the same question of the third patient he replied that he had some trouble in his throat and he complained that the attending physician, after examining the first and second patients, would, without washing his hands, examine his mouth. Just as we are horrified now when we think of the whole families we have allowed to be slaughtered by keeping a consumptive member of it in the house without any precautions toward destroying the germs, so will we some day realize our great responsibility in conveying or allowing to be conveyed the contagion of cancer from one patient to another. When its contagiousness becomes more fully recognized it may yet be possible to stamp it out by isolating the patient. When, on the one hand, women are taught that they are risking their lives by allowing a lacerated cervix to go unrepaired and, on the other hand, all those who have cancer of the cervix have it removed at a much earlier date, thus diminishing the number of centers of contagion, cancer of the cervix will in all probability become one of the extinct forms of disease.

Its Treatment.—At the outset it must be distinctly understood that the disease is in the beginning an entirely local one. In one of the writer's cases, in which vaginal hysterectomy was performed, the microscopic examination demonstrated that the cancer cells were limited to an area of less than half a cubic centimeter. If the disease were always detected thus early, while still limited to the angle of the tear or to the mucous membrane of the uterus, total extirpation would in most cases be followed by cure. Unfortunately the majority of these women do not consult their family physician during this early stage; while too often, in the cases in which he is consulted in good time, precious weeks and months are lost in cauterizing it instead of sending the patient at once to a specialist for vaginal hysterectomy. For one or other of the above reasons the patient reaches the latter in the majority of cases too late to render vaginal hysterectomy either possible, or at any rate of much use. One widespread and potent factor in causing this delay is the prevalent idea that irregular hemorrhages after the menopause has taken place are a sign of returning youth. If the one hundred thousand physicians of this continent would each undertake to instruct one hundred and fifty women on this point and to make them understand that profuse and irregular hemorrhages at the change of life are not natural but, on the contrary, constitute one of the earliest and strongest symptoms of cancer, then vaginal hysterectomy would be performed much earlier and the results would improve in proportion. It is also important to counteract and contradict the general opinion that the case is utterly hopeless from the beginning in every case. As a matter of fact, it is only the delay which makes the case hopeless. Provided that the organ is freely movable, even if the disease has invaded the whole of it, vaginal hysterectomy with ligatures gives good results. If a little less movable, the clamp method is more feasible. Olshausen's double curved needle, which he calls an "unterbindungs" needle, is a great help in passing the ligatures in cases in which it is a little difficult to draw the uterus down. If firmly fixed and the disease has extended to the broad ligament, a thorough curetting and the application of pure carbolic acid freely to the mucous membrane lining the uterus will retard the progress of the disease and add greatly to the woman's comfort. This may be followed by a Schroeder's amputation of the cervix, but before closing up the flaps it is well to sear them lightly with the cautery in order to destroy the microbes. This has prolonged life from two to five years, and in one case the woman has since been confined twice, and is still alive. In the writer's opinion it is a great mistake to remove the uterus when the broad ligaments are affected, as the disease only progresses more rapidly than if left alone. Such a case came under the writer's notice while this paper was being written. As the broad ligaments were clearly involved, I very thoroughly curetted, with great benefit. The hemorrhage ceased and there was no more bad-smelling discharge; the mild sepsis was ended and the patient's appetite and strength rapidly improved. She was strongly advised not to let any one attempt to remove the uterus, but in spite of this, after trying three other gynecologists who refused, she found a fourth, who consented, and who removed the uterus. The result has been just what was predicted, namely, the disease is in full blast in the stump at the roof of the vagina and is bleeding and discharging freely, and she is rapidly going down hill. With regard to the operation advocated by Polk and others, to tie the internal iliac arteries and then remove the uterus, and to dissect out the lymphatic glands, while the operation is quite feasible with the help of the Trendelenburg posture, yet, judging from the writer's experience, it does not save the patient, for in cases in which the broad ligament and pelvic glands are infected, the disease has become constitutional and the patient dies sooner than if we left her alone.

Our only hope, therefore, lies first, in prevention, by repairing all the lacerated cervices, and second in cure by early diagnosis and removal of all the diseased area.

An important point which should be carefully observed is that all cut surfaces should be thoroughly washed before completing the operation, to avoid the danger of reinfection.

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ADVANCES IN THE SURGICAL TREATMENT OF STRABISMUS.*

BY DR. EDMOND LANDOLT.

PARIS, FRANCE.

(Translated by Norman E. H. Scott, M.D.)

It was with genuine pleasure that I received an invitation to present a paper on the "Surgical Treatment of Strabismus" at this meeting of the AMERICAN MEDICAL ASSOCIATION. Nothing could be more desirable to me than an opportunity of referring to this subject, which has interested me for so many years, before a new and receptive audience.

This is not the first time that I have had the honor of discussing strabotomy with you. At the International Medical Congress, held in 1887 at Washington, D. C., I laid before you some of my ideas on the subject. The

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

sympathetic welcome you then gave them has encouraged and stimulated me to continue my studies, and if I have accomplished anything worthy of mention it is a good deal due to you.

The surgical treatment of strabismus is to-day still in a very primitive state; it consists for the most part in tenotomy. A squinting eye is tenotomized just as one tenotomizes a clubfoot. Tenotomy is done just as von Graefe did it half a century ago, although the results of this operation are often most unsatisfactory. Yet we ought long ago to have learned to distinguish between an eye and a foot—between strabismus and talipes.

Like all therapeutic measures, surgical or medical, that of strabismus should be based on the *etiology* of the ailment. The etiology of squint was given in 1864 by Donders. The little there was to add has since been pretty well added, so that for the ophthalmologist there should be no mystery about strabismus. The nature of this affection is, however, far from being universally grasped. The proof of this lies in the theories that are continually brought forward, the least obscure of which makes use of *words,* where Donders gave *facts.* The etiology of strabismus at any rate has not, as it should have done, affected the treatment of strabismus. Tenotomy holds the field now as formerly. Indeed, it appears that many surgeons, who claim to be of Donders' school, have not understood the Master.

You all know the etiology of strabismus; if I briefly refer to it here it is only for the sake of completeness. The movements of the two eyes are associated in the interest of binocular vision. Binocular vision demands that the lines of sight of the two eyes be always simultaneously directed toward the object which attracts the interest of the individual, so that, by the fusion of the two macular images, perfect localization and a stereoscopic impression of the object may be obtained.

If the eyes have not the reciprocal direction required by binocular vision, there is *strabismus.* The individual is, therefore, liable to strabismus whenever binocular vision is not present. In such conditions the eyes obey other agents that are able to influence their reciprocal direction. One of the most important of these is the *association of accommodation and convergence.* These two functions are associated in order to procure, at the same time, a *distinct* and a *binocular image* of the object looked at. This association is established naturally for eyes that are normal, that is to say *emmetropic* or nearly so. In this case the effort required of the two functions is always practically the same. An accommodation of so many *diopters* is accompanied by a convergence of a similar number of *meter-angles.*

If the refraction differ much from emmetropia, the stimulus to obtain binocular vision must be very strong, in order to create a new relation between accommodation and convergence and to force the eyes to take the normal direction. If the stimulus of binocular vision be absent, the eyes, as a rule, are governed exclusively by the stimulus of *distinct vision,* that is to say, they take a direction given them by *accommodation.*

Now, accommodation, *exaggerated* in the *hypermetrope* by the defect of retraction which characterizes his ametropia, will bring about an *excess of convergence.* This is the explanation of *convergent squint* in young *hypermetropes* of a certain degree, especially if one eye is inferior in visual power to the other.

The reverse happens in *myopes,* who see distinctly near at hand, without an effort of accommodation. If binocular vision does not direct their eyes and cause sufficient convergence in the absence of accommodation, such myopes *diverge,* using only one eye for near vision. This may happen, though less easily than in myopia, in any form of ametropia. If, for some reason, binocular vision is absent, the eyes generally diverge, because convergence constitutes an effort, whereas divergence is the state of rest, the primitive direction of the eyes.

Of course, the centers of the two functions, accommodation and convergence, and their center of association may be altered separately and a disturbance of the associated movements of the eyes, i. e., strabismus, result from it. But this form of strabismus is rather exceptional, and the doctrine that strabismus depends on a central or nervous affection although it received an easy acceptance before Donders' day, is decidedly too vague for our time.

We may conclude, then, that strabismus is essentially a *binocular affection*[1]. It is true that it shows itself only in one eye, the other being necessarily directed toward the object looked at. Both eyes are, however, involved and, instead of saying "the left eye has a divergent squint," it would be better to say: "the patient has divergent strabismus, and uses his right eye for vision."

The correctness of this way of considering strabismus is proved on the one hand by its etiology, on the other by its consequences. These are seen not only in the eye that is usually misdirected, but in both eyes. Thus, the lack of the use of convergence in a *divergent* squint entails, *on both eyes,* a diminution in the *nasal* excursions, varying in amount with the degree and duration of strabismus. In *convergent* strabismus, the *temporal* excursion is limited in *both eyes,* though the strabismus manifests itself only in one of them, and that without noticeable increase in the nasal excursion.

These facts, important not only for the etiology, but still more in the surgical treatment of strabismus, have been established independently by Schneller and myself. The fields of fixation which I showed to the International Congress of Medical Science at London in 1881 prove it.

What hints may we gather for the treatment of strabismus from the facts thus briefly summarized? I feel sure you have already drawn the following conclusions:

1. Since binocular vision governs the normal direction of the eyes it is the most important factor in the re-establishment of the normal direction, i. e., the treatment of strabismus.

2. When binocular vision is lost, for instance, in amaurosis of one eye, we can not expect a satisfactory correction of squint, and operation can produce only a cosmetic effect.

3. When the vision is fairly good in both eyes, we must try, by every means in our power, to restore binocular vision, since it is our most powerful ally in any treatment of strabismus.

4. Since the relation between accommodation and convergence plays such an important part in the associated movements of the eyes, we must make this association our aid in the treatment of strabismus, especially in convergent strabismus. We diminish convergence—by excluding accommodation—with cycloplegic and convex glasses.

5. Since strabismus soon brings about changes in the ocular muscles, these measures alone can give satisfactory results only in *recent* cases. When the strabismus

[1] See my communication to the Congress at Washington.

has existed for a certain time, we have to modify, first of all, the oculo-muscular system of the patient. This is the object of *surgical interference*.

What shall that interference be? Hitherto most oculists have tenotomized the "deviating muscle," as they call it. Why? Because, as we pointed out, certain old masters found an analogy between a strabismus and a clubfoot, because their ideas of the movements of the eyes and of the effect of tenotomy were erroneous, and, *finally,* because tenotomy is a very simple operation.

The erroneous notion that still exerts its harmful influence in the surgical treatment of squint rests on a misunderstanding. Donders, Helmholtz and others proved that the ocular globe turns round a center essentially fixed. Hence it was concluded that in tenotomy of an internal rectus, for instance, the eye could only turn round this center toward the temple. It was even thought that the eye gains in temporal excursion in proportion as it loses in nasal excursion. This, of course, is not so, as I have already proved[2]. When the insertion of one of the recti muscles is set back, the first result is that the eye drops forward, advancing out of its muscular funnel. Its center of rotation becomes displaced in an unfavorable way and the muscles have less grasp on the globe. The muscle thus retracted loses in great part its influence on the eyeball and its antagonist gains little or nothing. Why should it gain? What prevents, for instance, the external rectus from making the eye turn toward the temple in convergent strabismus? To it the rectus internus? This could only happen in a case where that muscle had been shortened and had lost its elasticity by structural alterations in such a way that its relaxation would be impossible. But the limitation we notice in the excursion of the eye in the direction opposite to that of the squint is due to want of exercise of the muscle that acts in that direction. Indeed, it does not exist at the beginning of the squint, but becomes evident only when the squint has lasted some time. This weakness of the muscle is not affected by the artificial enfeeblement which its antagonist undergoes by its setting back. On the other hand the advancement of the weak muscle restores to the eye often more than its normal excursion, without limiting it in the opposite direction. This could not be the case if the antagonist had lost its contractility.

These facts, which a correct conception of the movements of the eyes would have led us to anticipate, are proved by our experiments. The field of excursion, considerably limited on the tenotomized side, is little, sometimes not at all, increased on the opposite side. Even in a normal muscular system, tenotomy of an abductor which considerably limits abduction—i. e., divergence—but slightly increases convergence.

From these facts it follows that instead of making a muscle feebler than its weak antagonist, by setting back, we should endeavor to increase the force of the weakened muscle, by its *advancement.* With a more favorable insertion, the muscle will exert on the ocular globe a more powerful influence. Besides, having shown that the consequences of strabismus always make themselves felt simultaneously in both eyes, it follows that we should practice muscular advancement on the *two external* recti in *convergent* strabismus; on the *two internal* recti in *divergent* strabismus. One might ask, *a priori,* if, in certain cases of strabismus, this double operation does not overstep the requirement by changing the form of the strabismus instead of curing it. Only experience can answer this question. This we have possessed for many years. The results are of the most reassuring character. In *manifest* strabismus, advancement of the two muscles implicated never gives over-correction. In strabismus of *medium* degree, it is well even to increase the effect of the advancement by cutting off the tendinous end of the muscle. In strabismus of *very high* degree or of old standing, this resection may well amount to 6 mm. in each muscle.

After what I have just said, you might conclude that I altogether condemn tenotomy. I do not, so far, however. In particularly unfavorable forms of strabismus one is sometimes obliged to resort to tenotomy in order to increase the effect of muscular advancement. Nevertheless, I rarely practice the two operations at one sitting. I await, first, the definite result of the two advancements. Sometimes one has a happy surprise in obtaining a better result than one dared to hope for, and is able thus to dispense with tenotomy. At any rate, this delay enables us to decide the extent to which the tenotomy should be carried. Usually I perform a very limited tenotomy, making it subconjunctival and without detaching the muscle from its surroundings, avoid a too great recession of the muscle, and a too pronounced advance of the globe in its muscular funnel. Moreover, a delicate tenotomy on two eyes is better than a marked recession of a single muscle.

The idea that tenotomy, made simultaneously with the advancement, gives a greater result than when one practices the two operations, the one after the other, is a misconception handed down from olden times. After an advancement, properly done, the muscle is inserted close to the cornea. Would it be able to go any farther if we practice at the same time tenotomy of its antagonist?

Besides those cases of *extreme strabismus,* where we are obliged to practice the two operations, advancement and tenotomy, many colleagues reserve tenotomy exclusively for the reverse form of the disturbances of mobility to *latent strabismus* or *motor insufficiency.* I do not wish to speak in too categoric a fashion on this subject, above all before my esteemed American colleagues who have for many years made this form of motor anomaly a subject of particularly thorough study. Personally, I rarely find cases of this kind, where operative interference appears to me justified. There must, for example, be quite a decided insufficiency of convergence and it must have resisted all other methods of treatment, before I attack it surgically, and in that case, I nearly always practice advancement of the internal rectus on one of the eyes, knowing by experience that I thus increase considerably the convergent power without altering divergence. Tenotomy of the external rectus, on the other hand, always diminishes divergence and may easily lead to convergent strabismus with a very annoying diplopia, without always curing the insufficiency. I consequently reserve tenotomy for cases with a marked increase of the negative part and only a moderate diminution of the positive part of the amplitude of convergence.

The cases where tenotomy appears to me more justifiable are those *of vertical strabismus with diplopia.* The nature of this form of deviation is quite different from that of convergent and divergent strabismus. In such cases we do not generally meet these muscular alterations which are the rule in ordinary strabismus.

[2] Archiv. d'Ophthal. System of Diseases of the Eye, iv.

Moreover, there is generally a deviation of a *few degrees only*. A *simple* tenotomy, that is to say, only the detachment of the tendon, without a marked recession of the muscle itself is enough to cure it. We practice the operation on the eye which is the higher because the eyes being mostly employed in looking down, the defective mobility, resulting from the tenotomy, becomes less perceptible. If the vertical strabismus be more pronounced, we resort to advancement of the inferior rectus, and even to a combination of the two operations.

These matters, that I have the honor to point out, I communicated to the International Congress of Ophthalmology at Edinburgh in 1894. Even then they were already facts, well established by my researches and my clinical experiences. Some colleagues however, arose then and since, to oppose, to the excellent results which muscular advancement gives, the imperfect ones which they obtained from its employment, that they might point out and praise the more satisfactory results of tenotomy. To the first objection we reply that it is to be hoped that, by perfecting their method of operation and the subsequent care of their cases, our adversaries will some day be as well satisfied as ourselves with muscular advancement. As to the second objection, it will be necessary to understand what a "good result" in an operation for strabismus means. That is a most important question. All of us have received photographs, taken before and after operations for strabismus, as a proof of the attainments of a perfect result. This fact is very characteristic of the ideas that still prevail as to the purpose of strabotomy. These photographic proofs are really too naive. Setting aside the many artifices which the photographer has at his disposal in order to give to the eyes of the subject the most favorable appearance, we desire more than that the patient, in a certain condition, and for one instant, should no longer have the appearance of squinting. We believe in restoring to our patient as much as possible, the normal association of the movements of his two eyes, so that they may be always directed simultaneously to the point which attracts the attention of the individual. Are they so for more than the brief moment necessary for a "snap shot"? No one can tell us even this, because we do not know the object fixed by the person photographed. We know still less what would have become of the relative direction of the two eyes in looking in any other direction.

Let us take the very ordinary and too frequent case of a child operated on for convergent strabismus by means of tenotomy of the internal recti. He can, for example, looking at a distant object, present the appearance of being well corrected, but, on looking to one side, there is a divergent strabismus. This shows plainly, on looking to the left, because the right eye lags behind, on account of the impaired action of the internal rectus and, *vice versa,* on looking to the right. This divergent strabismus becomes still more manifest in looking near at hand. The recession of the internal recti has, in fact, considerably impaired the power of convergence.

Certain authors tell us that, in this form of strabismus, it is allowable to sacrifice the "excess of convergence" the "excess of the nasal excursion of each eye" by setting back the internal recti. There is an excess of convergence, it is certain, but it is an excess essentially relative. For example, if instead of remaining parallel, as they should, the eyes may converge to three meter-angles, when fixing a distant object, or, instead of converging two meter-angles, they may converge five. But it does not follow from this that the total amplitude of convergence is perceptibly stronger than in the normal state. The same thing happens in the excursion of the eyes. It is urged that—in convergent strabismus—the nasal excursions are much more extensive than in the normal state. But, has anyone ever measured them? Because, when we are told that they may have been *"estimated approximately,"* we do not call that measuring. As a matter of fact, if one measures the excursions of the eyes with precision, one finds, as we have said before, that the movements in the direction of the strabismus are scarcely increased, while the excursions in the reverse sense are considerably limited. But a more important question is: does the great sacrifice of motility, which the section of the muscle entails, increase the strength of the antagonist? There again, the reply is often the affirmative, given without investigation and notwithstanding the fact that our researches have for many years exposed the falsity of the theory.

Finally, concerning that binocular vision, which plays so great a part in the etiology and therapeutics of strabismus, denial is made that it can be re-established. We know that we have proved the contrary. It is true, that, under the old method of operating absence of binocular vision was often an advantage, because of the vision annoying diplopia that resulted from the receding muscles. We, on the contrary, know it is our duty to re-establish by every means in our power this binocular vision, knowing it to be our most powerful assistance in arriving at what we consider to be a good operative result, viz.: the re-establishment of the normal relative direction of the two eyes, where the person looks straight forward, to the right, to the left, above, or below, and whether he fix a distant or a near object. If I have said "We," it is because most fortunately I am not the only advocate of these comparatively new ideas. A great many distinguished colleagues who have seen me at work, have accepted them and have developed them to the great benefit of their patients. In the new world especially, I know and am proud of it, there are a great many who have adopted this means of perfecting the cure of strabismus. Even from the other camp, I see deserters coming more or less openly. They now operate on both eyes, instead of attacking only the non-fixing one. They do tenotomy prudently, reinforcing it, if needs be, by advancement of the antagonists. Soon they will replace this partial tenotomy by energetic advancement. I am quite convinced of it, because it is the evolutionary process that I have watched in others and is the same one I have gone through myself. I have especially explained it in our own *Archives d'Ophtalmologie* (March, December, 1895, July, 1896), in this way hoping to save others errors and loss of time.

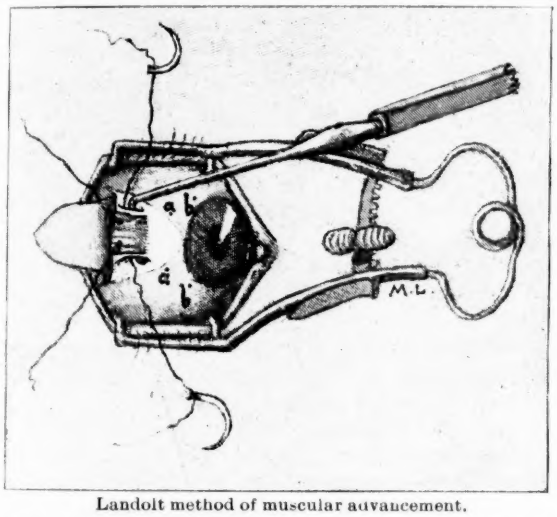
It is true that although this method often gives us an ideal cure of strabismus, it also often falls short of perfection. But we are on the right path—that is certain—and this certainty gives us confidence to march courageously forward toward the high aim that we should follow together.

For the information of those who are not already acquainted with my *method of operating for muscular advancement,* I append the following description: I always prefer to operate with simple instruments and by a simple method. I begin by cutting a conjunctival flap whose summit reaches the edge of the cornea. (See Fig. 1). I fold it back, so as to expose the insertion

of the muscle which is to be advanced. I pass beneath the muscle a rather small and somewhat flattened muscle-hook. In order to be sure of having the muscle completely on the hook, it is well to pass under the muscle a second hook in the opposite direction. I then withdraw the first and give the second to an assistant. Then I introduce into the muscle, from without inward, two sutures, about a third of the width of the muscle from each edge. It is important to include also in the sutures the surrounding tissues. Thus, one gets a very firm hold of the muscle.

If it be a question of *simple advancement,* the sutures are introduced immediately behind the hook, and the muscle is detached from its insertion at the ocular globe.

If a *resection* of the muscle is desired, we introduce the stitches farther back and divide the muscle between them and the hook. To do that, the muscle is gently raised, at one part, by means of the four ends of the stitches, which I hold in my left hand, and at the other, by the hook which is held by the assistant. The tendinous end is finally cut off from the eyeball. After the section of the muscle it is advisable to make sure, by



Landolt method of muscular advancement.

looking underneath the muscle that the stitches are in a proper position and especially that they are not too near the cut border. If this is the case, we should withdraw the stitch in question, and replace it in the requisite position. This is very easy to do, inasmuch as one sees the muscle from below. One of the needles is now passed above, the other below the meridian, into the *episcleral* tissue, close to the corneal margin (a-b, Fig. 1.) to the extent of several millimeters. If one feels that the needle has not penetrated sufficiently deep, one guides it farther underneath the conjunctiva, and if one fears that it has not a thorough grasp, one may pass it once more through the conjunctiva. The assistant then seizes the ocular globe, with a fixation forceps, at the level of the antagonist, and turns it toward the muscle to be advanced. In this way one can tie the stitches without exercising a too great traction on the tissues. In order to find the stitches more easily, we use one suture of white silk and another of black. The operation finished, we carefully wash the eyes, and then apply a *binocular dressing,* even if one eye only has been operated on. The dressing is renewed every twenty-four hours, and remains on five or six days in divergent and about a week in convergent strabismus. The sutures are generally removed on the sixth day. It is most important that the eyes should be kept immobile and the patient very calm and quiet.

As to the *re-establishment of binocular vision,* one could write books without exhausting the subject. We can give here only the principles of this endeavor. Here are, in a few words, the main points: 1. Restore to the eye which does not fix, its visual value, by correcting carefully its optical defects, and by exercising it. 2. Cause the patient to perceive *simultaneously* the visual impressions of the two eyes—distant candle flame, colored glass before one of his eyes, prisms, etc. Here again reinforce the visual impression of the feeble eye, so as to render it equally bright as the impression received by the good eye. 3. Make the macular impressions of the two eyes coincide and then fuse—prismus, Priestly Smith's fusion tubes, stereoscopes, etc. 4. Obtain, by the stereoscopic fusion of the images of the two eyes, the impression of *"relief,"* of depth, of the third dimension, appropriate stereoscopic figures—Hering's test, etc.

Many stereoscopes have been indicated for the development of binocular vision. All can serve the purpose, when they are properly used. They must allow of the eyes being fitted with the required correcting glasses, and also must give to the test-objects the position in which the fusion is produced most easily.

In spite of that, one frequently meets with great difficulties even in attempting to produce simultaneous vision. The impression of the good eye prevails, that of the bad appears only during an instant and vanishes immediately. To overcome this difficulty I have constructed a stereoscope which produces in the weak eye a very sharp image, while the luminous intensity of the other image is enfeebled at will, until it no longer overpowers the image of the weak eye.

NUTRITION OF THE LENS AND ITS RELATION TO CATARACT FORMATION.*

BY LOUIS STRICKER, M.D.

CINCINNATI, OHIO.

In studying the crystalline lens system, we are confronted by conditions entirely different from those regulating any other organisms of the entire body. Here we find a living structure, the lens, undergoing all the successive changes of development, progression and retrogression, devoid of the usual complicating factors—blood-vessels, nerves and lymphatics—subject to the influence of its nutritive supply, which is brought to it by the vitreous, possibly by the aqueous, both of which are likewise devoid of these complicating factors—blood-vessels, nerves and lymphatics. The lens is also subject to the mechanical influence exerted on its shape by the zonula Zinii. To this latter influence, the lens responds in a purely passive manner, due to the inherent elasticity of its fibers. Subsequent to its embryonal development period of growth, the lens consists of closely packed lamellæ of fibers, which become more densely packed as we approach the center, thus forming the nucleus as distinguished from the cortex, the outer, younger, more succulent lamellæ. All the fibers are derived from the epithelium, which originally invested the entire interior of the capsule, but with the completion of the third period of fetal development, conditions are changed; henceforth, the entire growth of the lens depends on the development of new fibers from the cells which line the anterior capsule.

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

These epithelial cells are the important factor of the lens, and have various functions to perform: 1. They excrete the capsular substance, which forms not only the covering, but aids in holding the lens together, and likewise acts as an osmotic dialyzing membrane. 2. These cells maintain the continuous and uniform growth of the lens and preserve the intracapsular pressure and equilibrium, which is likewise dependent on the gradual formation and shrinkage of the nucleus. 3. The selective power of these cells is to assimilate food for their nourishment. 4. To act as a barrier, preventing the entrance of abnormal fluids—permitting, by osmosis, the interchange of indifferent fluids, those which exert no detrimental chemical action on the lens-fibers, and possess an index of refraction, consistent with a perfect transparency of the lens.

The lens is practically immersed in its nutritive supply, and the fluid which has passed through the capsule by osmosis permeates all the interlamellar and interfibrillar interspaces; hence, literally, the fibers are bathed in nutritive fluid, a condition which is more perfect in the cortex than in the nucleus, where the fibers are more closely packed. It surely must be evident that since, with each accommodative effort, the lens changes its shape, at the same time the fluid in the interfibrillar spaces must likewise change its relative position, and in this manner currents are set up, by means of which the fluid, which has served its purpose, is forced onward and fresh fluid enters the lens, these accommodative efforts producing an effect which may, in the lens, be likened to the diastole and systole of the heart. Later in life, when the nucleus has become less resilient and its lamellæ denser, and the nucleus as a whole no longer gives during these accommodative efforts, to the same degree that the cortex does, this inequality of resiliency leads to the formation of splints and fissures, in which the nutritive fluid stagnates and is subsequently not pressed out, thus leading to the first recognizable evidences of cataract formation, due to a changed index of refraction of this fluid in the interspaces. In consequence of neighboring fibers being deprived of a fresh nutritive fluid, these undergo degenerative changes, give up some of their contents and take up some of the abnormal fluid; thus the first cataractous changes are set up.

Many authorities have sought to set up distinct modes of entrance and exit, for the nutritive fluid, into the lens. Since all effete matter is carried off by the aqueous, the effete matter from the lens must likewise pass in this direction, and it is undoubtedly given off anteriorly, most authorities claiming in a circular area, bordering on the anterior pole. Since the fibers develop along the equator, and since experimental investigators have obtained the deepest reaction to chemicals along this line, it has been assumed that along this line the nutriment gains access to the lens, and distinct paths have been pointed out, pseudolymphatic spaces—if one may so express it—in which the fluid circulates. This line of entrance has been accepted as between the zonular fibers, but the mode of its circulation is still a question of doubt. The *vis a tergo*, and the suction power in the anterior chamber, produced by the absorption along the line of the canal of Schlemm, must of necessity keep up the continuous circulation of the nutritive supply, and this is undoubtedly materially assisted by the manifold changes in the shape of the lens, induced by every accommodative effort. One form of cataract which may be looked on as the result of this general interference with the circulation of the nutritive fluid, is the cataract which develops in the course of glaucoma.

The posterior surface of the lens has no epithelial protection, simply the homogeneous lens capsule, which is considerably thinner than the anterior. In cases of chorioretnitis and retinitis pigmentosa, in which there has been disease of the choroidal vessels, we find as the result of osmosis posteriorly, of a defective nutritive material, the appearance of a posterior cortical cataract, in the region which receives its nutriment directly from the vitreous.

The interchange of fluids in the lens is entirely chemical, perfectly passive, being entirely separated from the influence of blood-vessels or nerves, the only condition which could influence this condition being one of temperature.

All the varieties of cataract—except those due to congenital malformations—can be explained on a basis of chemical change, the variety of the cataract depending on the chemical constitution of the nutritive fluid, the intensity of its action and the time of life. It has been shown that in the normal eye, the chemical constitution and the index of refraction of both aqueous and vitreous are practically the same.

CAHN'S COMPLETE ANALYSIS.

	Humor Vitreous.	Humor Aqueous.
Albumin	0.074	0.082
Remaining organic substances	0.071	0.148
Ashes	0.971	0.993
Water	98.884	98.777
	100,000	100,000
Inorganic substances.		
K_2SO_4	3.74	5.99
KCl	5.57	2.92
NaCl	74.43	78.11
PO_4HNa_2	1.82	1.99
$(PO_4)_2Ca_3$	0.44	0.62
$(PO_4)_2Mg_3$	0.22	0.46
Na_2Co_3	12.67	8.72

"According to this the watery fluids of the eye are very similar to the cerebrospinal fluid, and the transudates which are weakest in albumin."

The chemical analysis of the aqueous obtained from patients having cataract contained more albuminous substance than the aqueous of the normal eye. Though no chemical analysis of the vitreous during the progress of cataract formation has been made, attention has been called to the fact, clinically noted, that opacities appear in the vitreous, indicating a degeneration thereof.

From this, the conclusion has been drawn that some chemical constituent of the vitreous is present in either too great or abnormal a quantity, or some agent entirely foreign to normal vitreous is present, which leads either to an excessive, deficient or abnormal nutritive supply to the lens. Like conditions noted in the aqueous are in part due to an interference with the proper interchange of fluids in the lens. The albuminous increase in the aqueous being derived from the lens, is *not a cause* of the cataract but rather a *result*, since it has further been shown that the senile cataracts contain a less amount of albuminous material than the senile non-cataractous lenses taken from the same period of life. Further, the senile cataractous lens contains considerably more water—76.23 : 69.06 per cent.—than the non-cloudy senile lens, all of these facts proving that there is a very marked chemical difference between the cataractous and non-cataractous senile one.

It is a well-known fact that the direct contact of normal aqueous and vitreous with the lens fibers causes these to swell up and dissolve in the living eye—an ordinary observation in traumatic cataract. Hence, there must be something present in the aqueous and vitreous, which,

with a perfect integrity of the lens existing, is prevented from entering the capsular sac. In all experiments ever made, by means of which the epithelial cells lining the anterior capsule were destroyed, this barrier being even partially removed, fluids inimical to the lens proper gained entrance, and, if they did not at once cause the lens to swell up—a condition which always occurs in the formation of senile or constitutional cataract—they caused a change in the index of refraction of the cortical substance with a consequent change in the transparency of the lens, which we designated as cataract. The entrance of a pathologic fluid or constituents of *normal fluid,* which under normal conditions can not pass through the capsule, lead to a degeneration or solution of some of the cortical lamellae of fibers, and by osmosis some of the constituents of the lens are removed and the intracapsular pressure is reduced, and soon the various forms of pathologic cells—Wedl's vesicular cells, etc.—begin to develop; further the capsular epithelial cells begin to undergo hyperplasia, and produce a condition frequently noted in cataracts which have existed for a long time, viz., capsular cataracts.

Capsular cataract may also be the result of adhesions of extracapsular tissue in close relation, or due to exudates on the capsule, which interfere with the proper nutrition of the capsular cells. But in some cases where these capsular cells have been exposed for a long time to the deleterious influences, be these traumatic, or the result of long-continued action of an abnormal nutritive supply, as observed in diabetes, albuminuria, or any of the dyscrasias as cholera, anemia, gout, these epithelial cells die at certain points and the entrance of a pathologic fluid is established, with its consequent effect on the lens fibers. Occurring in intrauterine life, such conditions may lead to a complete fluidity of the contents of the capsule, and depending on the nature of the contained fluid, may be perfectly transparent or milky, or the outer lamellæ alone may become fluidified, the central unimpaired portion, simulating a cataract Morgagnii. In every case which has thus far been examined microscopically, the statement is made that the epithelium lining the anterior capsule was found practically destroyed, and the destruction of the epithelium is to be considered a very essential factor in the production of cataract.

As a result of the physiologic retrogression of the lens and its elements, with each succeeding year, the nucleus grows larger, the cortex less, so that the nutritive supply exerts its influence on a lesser amount of substance, and when this becomes pathologic, it affects only the outer layers, and the opacity never becomes so dense—and consequently, in operating, the older the individual the greater the nucleus to be extracted, which, as a rule, is *not* cataractous—owing to the density of the superimposed lamellæ, which the altered chemical constitution of the nutritive supply has been unable to attack. But there are exceptions to this rule, as witnessed in Von Graefe's hard or waxy cataract, and a form occurring in persons past the 40th year, in which, contrary to the general rule, a soft nucleus is found.

In the aged, just as in the young, the cortex may become perfectly fluid, without materially affecting the nucleus, which, sinking to the bottom of the sac, gives us the typical picture of a Morgagnian cataract.

There are conditions in which nutritive disturbances may only be active for a certain period of time, thus not only affecting the growth of the fibers, but at the same time affecting their transparency. Subsequently, a normal nutritive supply is again supplied, and the epithelial cells regaining their former normal condition, again produce perfectly normal fibers, which, in course of time, are applied over the affected lamellæ, and thus is explained the zonular or lamellar cataract, which, when occurring early in life and subsequently becoming more compact, may give the appearance of a central or nuclear cataract, and this condition may repeat itself at various intervals, thus giving us the picture of a double zonular cataract.

In considering hereditary cataract, in which in each succeeding generation the cataract occurs at an earlier age, it has been suggested that the cause is to be sought in a reduced viability of germinal cells, which, at the very beginning, are set aside to form the lens germ. Why these cells should have a lesser viability than others of the entire body seems almost unanswerable, but where one stops to consider the isolated position of the lens, its distant removal from the blood-supply, and the extreme sensitiveness of its epithelium to nutritive disturbances, one can conceive how an organism starting out with a reduced viability and resistance, will succumb, especially where conditions are unfavorable. Hence, we may look on the epithelium lining the anterior capsule, as the great factor, not only in the production of the lens, but of its protection against the inroads of disease. This protecting power of the epithelial cells once annulled, the train or changes takes place in a perfectly passive manner, subject entirely to the intensity of the action of the chemically-altered nutritive fluid. What this chemical change consists in, must eventually be solved by the student of physiologic chemistry.

"The Groton."

DISCUSSION.

DR. J. L. THOMPSON, Indianapolis, Ind.—I consider myself exceedingly fortunate in meeting with a gentleman who is able to answer a question which I have frequently asked of members of this Section of our Association, concerning a peculiar opacity of the lens, which I have seen at its lower inner margin, which is rarely ever seen in persons under 50 years of age, and which rarely ever causes complete opacity. I have watched such opacities for a period of thirty years, and in but one case has it ever advanced sufficiently to cause complete cataract. In cases where other portions of the periphery become opaque, complete opacity may be expected, but when only the lower inner portion is opaque one need not expect the whole of the lens to become involved. Has gravity anything to do with its causation? I hope that the essayist will be able to answer this question to my entire satisfaction.

DR. AYERS—The question of lens nutrition is one of very great importance, and I am glad to hear what has been said of it. We are not able to say how nutrition fails and why it runs for generations in some families, while others are entirely free from it. It is a matter which still requires much study.

DR. H. GIFFORD, Omaha, Neb.—I should like to confirm Dr. Thompson's observations. I well remember the paper he read some years ago, and whenever I find a little opacity in the lower and inner part of the lens, I generally tell the patient that he has it, but that it is of a kind that seldom increases and is not likely to give him any trouble. I have followed one such case for fifteen years, and though the patient is 72 years old, she still has vision of 20/30.

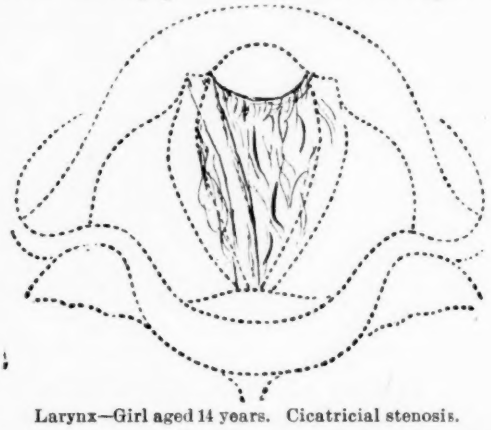
DR. MURRELL—I am very glad to hear Dr. Thompson's remarks in regard to the formation of these opacities. I remember some years ago, when I started in practice, I was taught that nearly all lens opacities would develop into full cataracts. During my fifteen years of observation I have seen just such cases as Dr. Thompson describes, and noticed that such opacities in the lower part of the lens seemed to be stationary.

Physician as Beneficiary.—The mere fact that the beneficiary of a decedent was his medical adviser, the third appellate division of the supreme court of New York, holds, In re Cornell's Will, does not raise any presumption of undue influence, at least in a case where the beneficiary is not present at the transaction, and the will is drawn from instructions given by the testator himself.

A CASE OF MULTIPLE LARYNGOTRACHEAL STENOSIS.*

BY THOS. HUBBARD, M.D.
FELLOW AMERICAN LARYNGOLOGICAL ASSOCIATION.
TOLEDO, OHIO.

Adventitious stenosis of the larynx or trachea is usually attributable to syphilis. Lesions of this character—ulceration, cicatrical tissue, formation of contractures—are rarely observed in childhood and adolescence. The case which I report has a somewhat obscure history both as regards constitutional and initial symptoms of the present condition, and there is, at worst, merely a vague suspicion of congenital syphilis based chiefly on pathologic probabilities and the questionable moral status of the parents, the mother being Spanish and at the present time being apart from her second husband. On the other hand, the evidences against systemic disease are: A healthy mother and sister, the father was healthy up to the time of having typhoid fever, with which he died, and the patient is of good morals, exhibits good vitality and has no active symptoms at present. The girl is now 20 years of age and her physical development is above the average. At 14 she contracted a severe cold, due to exposure while skating in drenched garments, and there developed laryngitis and bronchopneumonia of severe type. The temperature was very high, accompanied by dyspnea and cyanosis which persisted throughout the attack. There was also dysphagia. Epistaxis and hemoptysis persisted for several weeks. The dyspnea increased to the degree of constant orthopnea. She grew emaciated and feeble, and remained so for more than a year.



Larynx—Girl aged 14 years. Cicatricial stenosis.

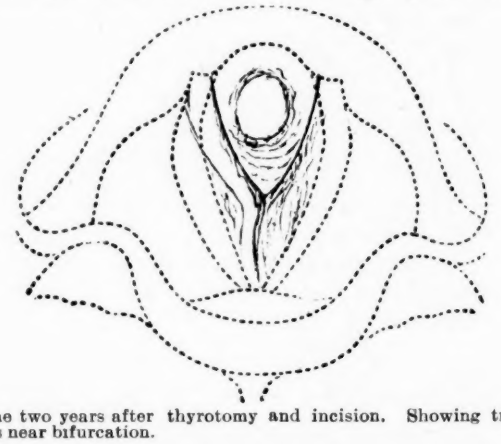
Judging from the description and symptoms there was intense inflammation and subsequent ulceration in both larynx and trachea, with but little or no perichondritis. After a year she began to improve, but breathed with difficulty all the time. Attendance at school was denied her because of the noisy respiration. With even a slight cold she would lie for days cyanotic and fighting for breath. Her mother says she would often become black in the face and unconscious after severe exertion and when she had a cold absolute rest was necessary.

As her strength returned and the larynx and trachea enlarged she suffered less, but at the time that I first saw her, four years later, her breathing could be heard in an adjoining room. On examination I discovered that at the level of the vocal cords there was a cicatrical membrane which closed the glottis, except posteriorly. She was breathing through an aperture such as would admit one-half of a common bean, 2/16 by 5/16 inches, the longest diameter being transverse. There was no phonation, only loud whispering. Some degree of cyanosis was manifest after any muscular exertion, and she was not able to do housework continuously on account of difficult breathing.

The larynx above the plane of the vocal cords was quite normal, and the action of the arytenoids was free. The patient states that in certain positions there is a valve-like plugging of the orifice from below. The nares, nasopharynx, and pharynx were normal, and the teeth excellent. With the Kirstein tongue-depressor and long probe bistoury I was able to make a notch in the web, but not sufficient to relieve the respiration. Repeated attempts convinced me that here was a mass of tissue below the web which would necessitate the use of a sharp knife applied with force.

She was anesthetized and thyrotomy performed, the whole length of the cartilage being incised. The cicatrical membrane was cut from behind forward. There was a fibrous nodule filling more than the anterior half of the lumen just below the vocal cords. This was incised to the cricoid cartilage. I was not prepared to remove it, and the result proved that it was not necessary.

The cartilages were adjusted and wired and the recovery was uneventful. She had a speaking voice, and was much less liable to attacks of dyspnea. There was still loud respiration, and a careful examination through the enlarged glottis enabled me to see a second stricture several inches below the larynx, near the bifurcation, and the opening about as large as a goose quill, 4/16 inches in diameter, round and in the center of a cicatrical membrane.



Same two years after thyrotomy and incision. Showing tracheal stenosis near bifurcation.

The benefits of removing the laryngeal stricture were fairly decided and the patient was soon able to obtain and hold a position. After two years the incised membrane and tumor mass below has only partially reunited. The larynx and trachea have grown in dimensions as the patient has grown in stature, and she is in such a condition now that she can endure a severe bronchitis without dyspnea, and is able to work with comparative comfort. She continues to grow and the organs to enlarge, and so long as improvement is observed I shall not urge further operative interference.

It should be observed in this case that the causative factor, syphilis, is not proved, and there is strong probability of an inflammatory condition so intense as to be accompanied by ulceration, loss of tissue, adhesions and contractures. Acute subglottic inflammation of the lymphadenoid deposit in this region is suggested by the presence of the fibrous nodule below the cicatricial membrane. At the age of 14 years lymphad-

*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

enitis is a constant factor in all inflammations of the upper and middle respiratory tract and the nodule is probably the atrophied remains of a subglottic mass of glandular tissue. The free incision has made permanent improvement. Dilatation would probably have resulted in positive injury since it would have served merely to temporarily stretch the yielding arytenoid cartilages apart and by traumatism impair their present mobility.

[Note: In studying this case it was observed that pressure on the thyroid cartilage, crowding it backward firmly against the bodies of the vertebra, caused abduction of the arytenoids and widening the aperture transversely. This maneuver was utilized during anesthesia when the respiration became impeded by relation of the abductors. It might give relief in the laryngeal crises of locomotor ataxia and similar conditions.

Anesthesia presents special features in such cases. The second stage is much prolonged, and when the third stage is reached great care must be exercised. To the degree that complete narcosis has been retarded on account of impeded respiration there is an element of danger. The patient will emerge from the third stage correspondingly slowly because of the deficient respiratory elimination of the anesthetic.]

INFECTIVE GRANULOMATA OF PHARYNX: GLANDERS.*

BY EMMA E. MUSSON, M.D.

PHILADELPHIA.

For the laryngologist the case to be reported will have at least two points of interest. It is, as far as I can find, a unique case of infective granulomata of throat due to the bacillus mallei. Its other point of interest lies in its microscopic and macroscopic resemblance to sarcomata of the tonsils. Virchow was the first to use the term "infective granulomata," applying it to the lesions of tubercle, lupus, syphilis, glanders, leprosy, actinomycosis and rhinoscleroma, on account of the resemblance which they show to some forms of tumor. It, however, remained for Loeffler and Schuetz, in 1882, to discover the bacillus mallei.

Mrs. H. R., aged 54, married, reported to me Oct. 2, 1893, with the history of rapid enlargement of tonsils commencing twelve months ago; for the past three months they have been their present size, and for that length of time she has had much difficulty in breathing, with severe pain on swallowing food, so that at times she would refuse to eat. During the last year she has lost flesh to a rapid and alarming extent; three months ago she was confined to bed for three weeks, with pleurisy; there was no family history of cancer. Her appearance is one of marked emaciation, skin of face wrinkled and yellowish-white in color; expression that of one exhausted by extreme suffering and starvation; in marked contrast to the emaciation of her face was the extreme fullness of the neck, beginning on each side about the angle of the jaw, giving it a pouched appearance resembling that of a well-known species of pigeon.

On examination of the pharynx, I found it completely filled by two large, smooth tonsillar masses, the left measuring about 1½ inches in length and an inch in breadth, the right slightly smaller, the anterior palatine arches on the right side were normal, but it was impossible to tell by direct or digital inspection the condition of the left palatine arches. Opinions varied and this confusion was cleared up later, while operating, by discovering that a soft growth the size of a black walnut filled up the left half of the nasopharynx. The size of the growths prevented any post-rhinoscopic or laryngoscopic examination. A few of the anterior cervical and all the submaxillary glands are enlarged, the submaxillary forming a string of glands, each the size of a filbert, giving to the chin and neck its pouched appearance.

A small portion of the left tonsil was excised for microscopic examination, the specimen examined by Dr. Florence Hull Watson, who reported sarcomatous infiltration. The case was then examined by Drs. Cohen and Keen, who confirmed the diagnosis of sarcomata of the tonsils. On October 23, under cocain anesthesia, I removed the left tonsil, preliminary to a contemplated radical operation, by Dr. Keen, for removal of the submaxillary glands. The larger portion of the tonsil was removed by Jarvis' snare, with enucleation of the stump by the finger. The mass, against my expectation, proved soft and friable. On digital examination of the nasopharynx, to detect any possible involvement of left palatine arches, I found a soft mass, the size of an English walnut, filling up the left half of the vault. With the detection of this mass I determined that a radical operation for the entire removal of the remaining growths and lymphatic glands would not be feasible. I, therefore, decided simply to remove the remaining tonsil and the mass in the vault, that the patient might eat and breathe with comfort. For this purpose she was etherized on October 30, the right tonsil enucleated and the nasopharyngeal growth, which was soft and friable, removed by Loewenburg's forceps; its base thoroughly curetted. The attachment of this growth was to the vault of the nasopharynx and to Rosenmüller's left fossa. There was sudden and profuse venous hemorrhage on removal of the tonsil, which was controlled by pressure. The patient recovered without complication, and returned to her home on November 13, where daily applications of pyoktanin, 1 per cent. solution, were made to the vault of the nasopharynx. Both tonsils were sent to Dr. Watson for microscopic examination. Her report states: "Specimens on examination showed round-cell infiltration but did not bear out the sarcomatous degeneration that the teased section promised. I should think it highly probable it could go on to such a state."

On November 27, the patient again presented herself at the office. Her whole aspect was changed. She was perfectly comfortable, with good appetite and breathing through both nostrils. On examination of the pharnyx, the right faucial region was clear, the posterior left palatine arch slightly nodular, there was marked diminution in the size of the cervical and submaxillary glands, giving the neck a normal appearance. Laryngoscopic examination, for the first time, was now possible, and revealed hypertrophied masses occupying the glosso-epiglottic space. These masses were soft, round and smooth. From this time to about January, 1894, I made a series of hypodermic injections of pyoktanin, 1 to 3 per cent. solutions, in the posterior palatine arches, with the result of a marked reduction in size.

The patient returned to me in March, 1895, an interval of a year having elapsed, with the following history: April 26, 1894, she went to see Dr. Fleischer for uterine hemorrhage which had existed for three months. Dr. Fleischer found a small polypoid growth, which he removed; on microscopic examination the growth proved to be inflammatory in character. In August of the same year she had been seized, while at Atlantic City, with an attack of dysentery that nearly resulted in death from exhaustion; the dysentery was attributed to indiscretions of diet and to the drinking water.

On examining my patient's throat I found a soft nodular mass occupying the left faucial region with marked

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increase in the size of the lingual masses. Pyoktanin was again injected, at intervals, into the faucial mass, with reduction in size; the lingual tonsils continued to increase in size, and feeling that the diagnosis was still doubtful, I had the old specimens of the right and left tonsils sent to Dr. Kyle for examination, through the kindness of Dr. Watson. His report says: "On microscopic examination I find the tissue to have very little fibrous stroma but consisting largely of glandular structure and small round cells. The blood-vessels, while irregular and illy-formed, are largely made up of small round cells, closely packed together, forming sluice-ways. I believe the tissue to be sarcomatous."

On July 20, 1895, I removed the left lingual tonsil with galvanic cautery snare under cocain anesthesia. The patient again returned in September, 1895, with reappearance of the mass in the left faucial region, palatine arches apparently much thickened; pyoktanin injections were recommenced. In December, 1896, she reported deafness and sense of pressure in the right ear, and I found a mass of granular tissue on the right side of the vault of the nasopharynx, and on the left side a small amount of dense fibrous tissue the size of the former growth. The nodular mass of the left fauces was rapidly growing in a downward direction. I removed a portion of this and sent it to Dr. Kyle, who, after seeing the patient's throat, reported it as a case of infective granulomata, probably due to the bacillus mallei.

In January, 1896, the mass in the nasopharynx caused considerable obstruction in the Eustachian tube, and necessitated the use of the Politzer bag; I recommenced pyoktanin injections and used protonuclein locally and internally. By March 12, 1896, the mass in the fauces filled up more than three-fourths of the pharynx; it now looked like typical granuloma tissue. At this time the patient became subject to attacks of diarrhea, and enlarged glands were detected in the left axillary and right inguinal regions.

March 17, 1896, under ether, I enucleated the mass in the left fauces; tissue soft, friable and easily detached; some portions of it were jelly-like in consistency and purple in color, the broken-down tissue due to the pyoktanin injections; the mass in the nasopharynx was removed with forceps and curette. Pyoktanin was applied to all fresh surfaces, followed next day by applications of the galvano-cautery to the cut surface in the left fauces, to prevent possible re-infection. The patient did remarkably well and left the hospital for her home in three days, her temperature being normal. A portion of the granulation tissue removed was sent to Dr. Rabinowitsch, who made a series of inoculations on six or seven guinea-pigs, with the following report: "My experiments on guinea-pigs are by the method of Strauss and with pure cultures, inoculating a number of male guinea-pigs with bits of the suspected tissue or culture injected into the peritoneal cavity. In about thirty or forty-eight hours the testicles began to swell, the skin over them became red and shining, desquamation occurred, pus formed and the resulting abscesses (purulent orchitis) often broke through the skin. Besides inoculations into the peritoneal cavity, I also made subcutaneous inoculations. Post-mortem examinations on guinea-pigs, besides purulent orchitis, showed numerous white flocculi over the surfaces of the intestines; which, when placed under the microscope, showed fields full of characteristic bacillus mallei."

On March 27, ten days after operation, the patient's temperature ran up to 103 degrees, accompanied by diarrhea and excessive and alarming tympanites with abdominal tenderness. Under treatment with salol and arsenite of strychnia and high rectal antiseptic injections, she improved and was able to be out of bed by April 20. On June 8, 1896, the appearance of the pharynx and nasopharynx was perfectly normal, with no apparent return of granulation tissue. The bacteriologic report of the nasal secretion and sputum showed no bacilli mallei, but plenty of streptococci and staphylococci. At this time I left the city, and, returning in October, heard of the patient's death, and that post-mortem had not been made.

As to history, the closest questioning never elicited anything that would give the slightest clue to the method of infection. The mucous membrane of the nose, though markedly swollen and purplish over the inferior turbinates, showed no signs of old cicatrices over the septum, and what symptoms of catarrh existed were later explained by the mass in the nasopharynx. It is probable that the nasopharyngeal mass was the point of the primary lesion, or at least the primary metastatic growth; the faucial and lingual tonsils and lymphatics of the cervical and submaxillary regions becoming successively involved by metastasis; the femoral and axillary involvement being the result of a general infection that took place in the later stage of the disease. It is interesting to note the involvement of the ring of lymphoid tissue of the pharynx, similar to what we have in lymphatism.

The greatest point of interest was the resemblance of the case to sarcomata of the tonsils, the large smooth masses of the tonsils completely filling up the fauces, the enlarged cervical and submaxillary glands, the marked cachexia and extreme emaciation, and the intense pain on swallowing, causing the patient to refuse food—almost pathognomonic of sarcomata of the tonsils. Microscopic examination, though doubtful, led to the supposition of round cell sarcoma, as the tissues showed marked round-cell infiltration with very little fibrous stroma. In the last edition of Green's "Pathology," infective granulomata are described as lesions consisting of cells, varying between lymphoid and giant cells and lying in a scanty matrix, while the mass thus formed presents to the naked eye a more or less defined outline; the lesions, therefore, resemble sarcomata in structure. The predominance of enlarged submaxillary lymphatic glands was a source of confusion in the diagnosis of sarcomata of the tonsils, the cervical glands being the ones usually involved.

Frank Billings writes that indirect metastasis or indirect dispersion of bacilli from the seat of primary lesion takes place by the lymphatics, as well as do the absorption and dispersion of any chemical products of the germ in the infected center, or of the necrobiosis of tissues in such centers. From the lymphatics such factors are poured into the blood, and from these metastases to other organs take place, or the chemical irritants are distributed over the organism of the host. When bacilli find their way into the lymphatics and become fast in the tissues of the next lymph-glands, there results a neoplasm. That this has been the case here is probable, as direct metastasis, due to the immediate entrance of the bacilli into the veins by corrosion of their walls, would presuppose a primary invasion, attended by ulceration, which the history of the case would not warrant.

Dr. Billings, in referring to involvement of lymphatics and lymph-glands, states that complications of these organs in glanders is limited to the diseased territory which they drain, but that this has no reference to the general induration or parenchymatous changes which the stroma of the lymph-glands generally undergo in

chronic glanders, due either to toxic action from adventitious germs accompanying bacilli mallei, or from absorption and generalization of products of necrobiosis of neoplastic and invaded tissue. This latter fact would account for the involvement of the glands of the axillary and femoral regions in the latter stages of the disease at a time when the disease has ceased to be a chronic invasive one and has become an acute infectious one, with the production of toxins, causing profuse parenchymatous changes. Whether this parenchymatous process involved the kidney, liver and spleen, as well as the axillary and inguinal lymphatic glands, in the absence of a post-mortem, is not known.

Necrobiosis.—Usually these granulomata, according to Greene and Billings, degenerate early and show little tendency to develop into permanent tissue. Foster describes infective granuloma as a neoplastic formation of unstable granulation tissue that spreads from the center into the surrounding connective tissue, the central portion eventually suppurating. Dr. Billings states that in glanders in the horse, tubercles invariably develop around a central vessel, from which radiates a network of capillaries, between which are cells; the same is true of a certain portion of the nodes as well as larger growths, when emboli consist entirely of bacilli mallei, pearly, hard, enduring growths result; when other germs are mixed with glanders bacilli, necrobiosis begins in the center or in the immediate vicinity of the vessel. Referring to man he states that circumscribed neoplastic indurations are less marked. At no time in the history of this case was there any evidence of necrobiosis, or the breaking down of the neoplastic growths, except that due to disintegration caused by pyoktanin injections.

During the whole course of the disease there was no increase of temperature, except ten days after the last operation, when it rose to 103 degrees; after this we have a varying temperature from 99 to 100 and 102 for nearly a month. At this time the disease must have ceased as a chronic form of glanders and entered into the acute stage; in the words of Dr. Billings, it ceased to be a strictly invasopathogenic affection as represented by granulomata due to irritation caused by the bacilli mallei and more or less local, and became a toxopathogenic disease, or a fever-generating one, whether due to the toxins of bacilli mallei, or to the entrance of adventitious germs, must remain an open question. Dr. Billings refers to the bacillus mallei as a parasite that occupies a stage midway between a toxopathogenic organism and an invasopathogenic one. In its chronic form, glanders is an invasopathogenic organism, producing no fever or other symptoms of infection; it becomes acute either from a change taking place in its host or the bacilli itself, when general symptoms of infection take place, fever, etc., and its toxopathogenic phase of existence becomes most marked.

A last point of interest at this, the acute stage of the disease, was the intestinal symptoms that accompanied the rise in temperature, diarrhea, grave tympanites and abdominal tenderness. The cause of these symptoms, in view of the lack of post-mortem evidence, can never be known; one can only suppose that a sufficient number of the bacilli mallei found their way into the intestines during or after the operation to give rise to local infection, possibly the involvement of the lymphoid structures of the intestines, Peyer's patches, either by direct absorption or by metastasis. High rectal antiseptic injections and antiseptics by mouth were given, and with good results in view of this complication having taken place.

Resume.—1. Microscopically and macroscopically, the tonsillar neoplasms were undistinguishable from sarcomata of the tonsils. 2. Bacteriologic examination alone confirmed the diagnosis of glanders. 3. Probably the neoplasm in the nasopharynx was the primary growth. 4. The involvement of the lymphatics draining the diseased area, and later the appearance of parenchymatous changes taking place in the general lymphatic system. 5. The absence of necrobiosis of the neoplasms or invaded tissues. 6. Change from a chronic invasive disease, chronic glanders, to an acute infectious disease, acute glanders, resulting in death.

DISCUSSION.

DR. J. F. BARNHILL, Indianapolis, Ind.—I have had a case very much like the one just reported. A woman applied for treatment at my office in 1896, I think it was in June, with tonsils appearing as the essayist has described in her case, but the lingual tonsil was very much more enlarged than was the faucial. It was so much enlarged that she could not lie down at night, on account of the obstruction to respiration. The condition had been going on for several months. The lymphatic glands along the neck had been much hypertrophied and a general surgeon had removed them. I removed the mass of lingual tonsil with a cold snare and it weighed over an ounce. There has been no recurrence in either the faucial or lingual tonsils, but along the neck there has been a return of the former condition, in a much more extensive form. She is living yet, but is expected to die any time. It is a case very similar to the one reported here, although both the pathologist and microscopist stated that my case was a round-celled sarcoma. I never had so many examinations made as in the case of Dr. Musson, and consequently know much less about my case.

THE CHAIR—It seems to me this case points out to us very thoroughly that we could go further when there is any doubt as to the microscopic report.

DR. ROBERT LEVY, Denver, Colo.—I should like to ask the essayist two questions: What did the patient die of? I do not know that she mentioned that. What was the immediate cause of death? After the operation how long a time elapsed before she had the last bacteriologic examination made?

DR. D. M. GREENE, Grand Rapids, Mich.—I should like to ask if there was a tendency to hemorrhage in the case. I have had a similar case.

DR. EMMA E. MUSSON, Philadelphia—The patient died during my absence from the city, Dr. Greenwald, attending the case, said that there was extensive abdominal dropsy and a recurrence of the growth in the throat, but that he could not procure a post-mortem examination. Antitoxin mailein was procured from Germany, but as no promise could be made as to its beneficial effect, its administration was refused. There was no hemorrhage at any time.

NASAL AND AURAL COMPLICATIONS IN EPIDEMIC INFLUENZA*.

BY SARGENT F. SNOW, M. D.

SYRACUSE, N. Y.

The importance of ear and nose complications in epidemic influenza impresses itself on us as we come more and more to see that much of the acute suffering in the disease depends on their severity. Practically all its headaches and cranial pains are due to pressure in the nasal passage, or to pent-up secretions within the adjacent sinuses, the outlets of which are blocked by the acutely congested membranes, and it is for the sake of emphasizing and sustaining this argument to those of the general medical profession who read the proceedings of this Section that I shall inflict many well known and seemingly useless details upon the specialists here assembled.

The ethmoidal cavities are particularly susceptible to inflammation in la grippe, and in some cases they may be the only ones involved, but in a few patients the disease rapidly extends, one sinus after another being affected until perhaps the frontal sphenoidal and

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maxillary as well as the ethmoidal are affected, a peculiarity being that these inflammations are likely to be confined to one half of the head.

The membrane of the post-nasal space is affected in almost every case, and in some of the aggressive ones the Eustachian tube, middle ear and mastoid cells become involved in spite of our best efforts.

In patients with a fair natural power of resistance to disease, we can by proper systemic and local treatment so reduce the virulence of the poison and control nasal inflammation as to promote a free drainage of sinuses and thereby prevent the formation of pus; but in those of lowered vitality and resistance, particularly if they are subject to catarrhal inflammations, there will be pustular collections in some of the deeper sinuses in spite of the most careful attention.

In the light of our present knowledge and our facilities for examining into the cause of the severe cranial pains that usually accompany epidemic influenza, I can hardly see how we can be justified in calling them neuralgias and make no effort toward reducing the congestion of the membranes. These pains do not occur except from pressure of nasal tissues or imprisoned mucus. Attempts to relieve them are almost always successful for a time at least, and certainly do less harm than locking up bodily secretions by an opiate.

Differentiation of the causes of headache may be difficult at times, because of a complication of conditions; for instance, the superior portion of both nasal passages may be completely occluded and the sphenoidal cavity in an acute state of inflammation, in which event, we will have both much frontal and occipital pain apparently radiating from the center of the head, in fact a severe general headache, due to inflammation of the regions mentioned, but with good nasal respiration in the mass of cases, though either one or the other nasal fossa will be stuffed, and the pain will radiate from the area of pressure, showing the half of the head involved. At the beginning of the trouble, there may be a dull general headache due to a diffused sensitiveness and inflammation of the nasal and post-nasal membranes, but indicating no particular localized area of nerve irritation.

During the early stage, the ethmoidal region rarely ever escapes, at least some mucopurulent accumulation with an ache or pain extending up over the bridge of the nose and under the eye to the temple of the side affected, though surgical work at this time is as a rule unnecessary.

Inflammation of the frontal sinus is characterized by deep supraorbital pain which very often becomes intense.

Acute sphenoidal and maxillary involvement are both more rare in occurrence. In the sphenoidal we get a heavy, deep-seated, sometimes splitting pain radiating toward the sides of the head and occiput upward, associated in some cases with confusion of ideas, loss of memory and psychologic disturbances, but relieved when the pent-up secretions find an outlet.

Maxillary or antral trouble is mainly characterized by a heavy load or dull ache in the cheek and pain radiating toward the outer angle of the eye, but not as a rule marked by the severity of symptoms manifest in frontal or sphenoidal trouble.

If the Eustachian tube becomes swollen, a sense of pressure on the ear drum, or fulness, is complained of, due to lack of balance in the air-pressure.

Middle-ear trouble is not a constant accompaniment in epidemic influenza; many times the only symptom directing attention to those parts will be from the tubal occlusion just mentioned, but in other cases, the inflammatory state extends rapidly to that cavity, bloody serum is transuded and the drum ruptured, perhaps before we are called. This may mark the turning point, but in occasional instances there will be a rapid invasion of the mastoid cells, with tenderness and pain behind the ear, which, if not combated, becomes a serious complication. Occasionally we find the supposed middle-ear trouble to be a furuncle of a diffused inflammation of the external canal, which takes the usual course and with very little care makes a speedy recovery.

Mastoid inflammation in any degree, calls for earnest consideration, and though in epidemic influenza it may be self-limiting, a few hours' delay can mean much to the patient. The only safe rule is to begin at once with measures for driving or extracting blood from the parts; whatever method is chosen, let it be done promptly and with vigor.

Protracted or neglected cases of inflammation in any of the passages or cavities above specified may become chronic, affect the hearing and act as the cause of adenoid and other glandular overgrowths.

Before taking up the treatment of the foregoing acute nasal and aural complications occurring in la grippe, let me say that even the general practitioner should be equipped both with knowledge and means of attacking these local conditions as well as those of the general system. Few appliances are necessary, and the benefit and relief obtained are much appreciated.

For the majority of cases, a mild alkaline solution, as Seiler's, snuffed or sprayed into the nostrils every two or three hours, followed with benzoinol plain, or in combination with menthol (grs. 3 to 1 oz.), will suffice, but in those suffering with the severe pains mentioned earlier in this paper, more careful treatment has to be given, and in the main by the physician himself.

The object to be attained is relief of intranasal congestion, particularly in the superior portion, with consequent better drainage of adjacent sinuses, then if pus does form, its least resistance will be found along natural outlets.

Two or three jets of a 2 per cent. solution of cocain, with a fine spray, though I think of it only to condemn except in the hands of the physician, opens the part for better application of a light spray of iodol, menthol and ether (Squibbs) one grain each to the ounce. This latter combination should be made fresh each day. It promotes and prolongs the contraction obtained by the cocain and, when followed by the benzoinol or some oily spray, is very grateful to the patient and gives the ethmoidal and frontal sinuses a better opportunity to unload their secretions.

For the relief of the sphenoidal or tubal inflammation, post-nasal application of the same sprays should be made, but if active work has been done on the earlier trouble, the deeper cavities are not apt to be severely involved.

In acute frontal, ethmoidal and maxillary inflammations, application of the ice-bag in the early stages will do good. Hot fomentations later on seem to act well in loosening the secretions.

Serious middle-ear complications can often be aborted by prompt blood-letting with leeches in front of the tragus and at the tip of the mastoid, followed by the aural ice-bag. It is well also to inflate by Politzer's method, and, if pain be severe, hot-water injections by a fountain syringe, one pint each hour, produce decided relief. If, in spite of the above treatment, it

is found that the drum becomes bulged, a free incision into the posterior half should be made, carrying the knife well through so as to cut the periosteum lining the middle ear. This later point I believe to be important, as it tends to prevent mastoid complications.

If the mastoid does become involved, the measure instituted must be most prompt, energetic and persistent. If the ice-bag be applied, it should be kept on continuously for hours, the object being to drive the blood from the part, and it is much better to keep it out than to have on interval of recongestion, as will occur, if the nurse be slow in refilling the bag. If hot fomentations are preferred and are more grateful to the patient, and the same energy be displayed by the nurse so that the blood-vessels remain contracted, we can feel sure that we are carrying out rational methods, and using the proper means to avoid an external operation.

Personal experience teaches that in many of those cases of acute mastoid trouble, where there is no previous history of chronic suppuration of the middle ear, though there may be evidence of pus in the mastoid cells, if pain is relieved and they can be carefully watched for brain complications, we are quite safe in relying on the continuous and persistent applications of cold to promote a recovery.

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DYNAMICS OF SCHOOL PUBERTY.*

BY M. H. HATFIELD, M.D.

CHICAGO.

Dynamics, according to Webster, are "the moral as well as the physical forces, and the laws which relate to them," hence dynamic pubetry in city children, for of country children I know but little. My whole life has been a city life; my practice largely with city children, and I have come to know only too well some of the penalties which they pay for their urban existence, especially about the time of puberty; so much so that I have come to dread the time of their blossoming into manhood or womanhood under our present school system. It should be, for the child's highest possibilities a time of sunshine, singing birds and spiritual bloom.

What is the actual condition of the average city child especially the girl, at this time. Haven't most of us in mind more than one case where one year ago the girl had the normal appetite, the bright eyes, the verve and go of the typical American child? Since then she has entered the high school, and day by day has been losing ground. Her appetite, except for pickles and coffee, has gone. She was once a tomboy, and now complains that it tires her to comb her hair. Her rosy cheeks have disappeared; her lips are anemic, her ear-tips translucent; menstruation is scanty; the pulse intermittent, and you may find an anemic bruit on ausculation.

But why should I enumerate her symptoms? You know them as well as I. This is what I wish to ask: Is it necessary that this girl's blossoming should be purchased at such a price as this? Topsy in the southern cotton field knows nothing of these penalties, even though she performs hard labor when in the "dark of the moon." What makes the difference? It is not far to seek: Topsy "just grows," while the Chicago girl is educated according to the edicts of a board of education selected by an elective mayor; need I say more?

At present the alternative for the city girl seems to lie between culture, with the ills of abnormal menstruation, or to be cultureless and in joyful ignorance of menstrual pangs and her Latin parts.

In physiologic dynamics we have learned that every mental effort produces a characteristic fatigue curve on a recording drum; crowd effort still further, and it passes into a fatigue irritability with characteristic and unmistakable record on the recording drum.

"In the stupid old times," says Charles Kingsley, "children were taught to know a few things and know them well, but in these enlightened times they are taught to know a little about everything and to know it all ill, which is a great deal easier and pleasanter, and therefore quite right"—or to put it in electric nomenclature, our children are human dynamos with certain potential voltage for each one, which voltage can not be increased by multiplying the switches, or attaching more incandescent lamps. Every additional study is an attempt to attach another lamp on the child's intellectual circuit. Small wonder that a girl's dynamo, which always runs at a higher rate of speed than her brother's, begins to splutter somewhere along the line. *Propter uterum est mulier,* hence sexual irritability, religious vagaries and the sexual perversities of overcivilization.

Who is to blame for these things? Chiefly we as physicians, unless we at every convenient opportunity, and at some inconvenient ones as well, have taken occasion to make known that the time of sexual awakening is one of peculiar temptations and stress for the modern girl. We lay heavier burdens on her shoulders than she can safely bear, and then complain because she came out a morbid and bad-tempered apology for a sound, normal woman.

The boy does not generally fare so badly physically, for the wires on his circuit are usually of coarser make, and his studies are usually more of a burden to his teacher than to himself. He suffers chiefly from bad air of the school room, the cigarette and the moral atmosphere by which he finds himself surrounded. As a rule he has plenty and more than plenty of good food, but he matures in an unhealthy atmosphere, chemically and morally, since in every great city there is a cumulative increase of refuse in the air, in the street, even in the home. A saving grace of athletics may counteract for the boy some of these forces, but as President Elliott of Harvard truthfully says, it is absolutely impossible to preserve in health any family that resides uninterruptedly for two generations in a great city.

Now add to this subnormal condition of physical health, the stupidity of our ordinary public school teachers in selecting the educational burdens which they hope to bind on the shoulders of all the students in their "grade," and you have a condition of affairs which cries to Heaven for remedy—not in vain, I believe, if the members of this Section in season and out of season protest vigorously against what Mrs. General Lew Wallace rightly calls the "Slaughter of the Innocents." Perhaps the physical side of the question needs no more repetition to this Section, but just a word as to its psychology—a subject sadly neglected in all our medical colleges.

On this head let me quote from my master, Professor George A. Coe, to whom here I wish to make grateful acknowledgement for original work along this line: "Who of us," says he, "stops to think that puberty is the time of intellectual and religious flowering no less than physical?" "The years from 14 to 17 are especially those of hesitating, introspective conscience and intellectual thirst for the absolute"—facts to which little or no heed is given in our present system of education. These are

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the years of the establishment and regulation of puberty as well, and I am profoundly convinced that either process of development, the mental or the physical, and still more both, since they occur conjointly, require the most careful regulation of the youth's life at that time."

Has it ever dawned on the average city school teacher that such pupils are liable to serious physical and spiritual injuries arising from the mental and spiritual vagaries incident to the sexual adjustment of their lives? The average grade-teacher of our progressive city schools concerns herself with little that lies not in her grade. The one essential fact that is daily impressed on her pupils is that at any cost they must "pass" on final examinations, or be everlastingly disgraced. It may be, and generally is, true that these examinations consist of memorized repetitions of facts that are of no possible use in the future life of the child. There has been no intelligent effort on the part of the teacher to teach the child to think; to educate, to draw out and develop its budding powers. The process in the average public school is not education, but *farcement,* to borrow an old English word—a stuffing of undigested facts into unhealthy children, after the fashion of the geese of Strasburg. What I wish to insist on in this paper is that the modern method of public school education during the establishment of puberty is most hurtful to the future sexual and psychic health of the child. To quote again from Prof. Coe: "It is folly and worse than folly to assume maturity where maturity does not and can not yet exist. The result is over-taxation, worry, despondency, morbid conscience, bad temper and heightened liability to sexual temptation." All these things we know and have seen, and yet we keep silence because it is the fashion to bear them."

But all this, perhaps you say, is destructive criticism, which is vastly easier than to offer a better way. Granted! But, on the other hand, we shall never seek improvement until we grow dissatisfied with present methods; and if we can formulate just reasons for dissatisfaction our time has not been misspent.

Here then is our charge in the case of Puberty vs. the City Public School System, viz., The maturing child, for its perfection, needs active exercise, pure air and sufficient food. The present public school requires that pupils, irrespective of their physical condition, maintain an unnatural condition of quiet, in an unphysiologic posture for many hours each day. Add to this poor ventilation, oftener none or worse, and it is small wonder that the child grows listless, loses its appetite and gives proof of nerve tire on the proper physiologic testing. Moreover, many of these pupils, especially girls, attempt to take instruction in music at this time. Some time, I presume, the physiologists will explain to us why the study of music, especially in its earlier monotonous exercises, is so exhaustive of nerve force. But whether we understand or not the why and wherefore, the fact remains that a large percentage of menstrual irregularities occur in young girls endeavoring to become musicians in addition to their regular school work. The humble potato will sprout and send up long waxy stems, and attempt to blossom in a sickly, ineffectual way even in a cellar. Such is the menstrual life of the city girl, if she strive for place or position, and music is a brick—if you care to carry the comparison further—laid on the flower of menstruation. Hence, from the standpoint of one who loves his race, I dread the city music teacher, and hate the musical college if its work is taken in addition to forced school work.

Fellow judges, on the bench assembled, if it be true that our city school takes from its pupils the air, appetite and vital force necessary to properly establish the functions on which the perpetuation of the race depends, then our city inhabitants are making a costly exchange, in spite of the gain in wider culture and information.

Culture, let us remember, originally meant the preparation of the earth for crops, hence Bacon speaks of the "culture and manurement of minds in youth." Manurement, certainly, our boys get in our public schools, but what of the crop? It has come to pass that in these latter days we build and endow agricultural colleges in order that our farmers may better know what sort of manure to use in their wheat fields, but any crude normal school graduate may, unquestioned, "spread her compost on the weeds of our children's minds to make them ranker." Herein is folly. A sound, well child is the best crop of the state. No price is too high, no care too great which insures such results. Are you satisfied with the harvest that is being garnered from our present public school methods? Is the average high school girl a pleasing commentary on the nineteenth century civilization? Our city boys and girls have disappeared, and in their stead we have raised a crop of self-conscious, short-sighted, round-shouldered, stunted, disagreeable prigs, who despise their parents and betters, and think that knowledge shall die with them. I am heart-sick for the old-fashioned, dirty, idle, vital girl and boy who knew intimately the joys of sunshine, field, flower, brook and bird, and—thank God—nothing of Miss Harrison's esoteric significance of bread and molasses.

In behalf of the state I call for an injunction against the present boards of education, which are sacrificing our children to our alleged civilization. It makes modern culture no less a Moloch to spell it with a large C and deck it with the flowers of our eloquence. The old brazen idol did its work quickly with the children laid in its arms, while the priests drowned their cries with timbrels and shoutings. We call our modern Moloch "Culture," and it shrivels and dwarfs the souls and bodies of our children while we shout to them the names of their cerebral convolutions, and cut ourselves with the knives of our self-conceit. The Assyrian Moloch had the head of an ox; the American Moloch has the head of that humbler animal which in the fable of Esop was carried by the old man and his two sons as a result of their super-civilization.

FURTHER OBSERVATIONS ON THE THERAPEUTICS OF THE CHLORID OF GOLD AND SODIUM.*

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One year ago Dr. Brower[1] read a paper before this Section, on the "Therapy of the Chlorid of Gold and Sodium," in the course of which he recommended it as an alterative and tonic, claiming for it, in properly selected cases, the power of increasing the percentage of hemoglobin and the number of red blood-corpuscles and renal elimination, and advising its use in secondary anemia, chronic interstitial inflammations, and in syph-

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1 JOURNAL, Oct. 1, 1898, p. 754.

ilis in debilitated subjects. Since then a series of carefully conducted experiments, under his direction, have been made at the laboratory of Rush Medical College and in the Cook County Hospital, the results of which with a short history of the cases and some comments are herewith submitted.

Case 1.—*Chlorosis.* Miss A. C., aged 18, weight 140 pounds, seamstress, began to complain of languor and constipation about two years ago. When she came under observation, she was greatly distressed by palpitation of the heart, shortness of breath, headache and irregular menstruation. She was well developed and well nourished; the mucous membranes, however, showing some anemia. On February 28 she was put on the chlorid of gold and sodium, 1/20 gr. with powdered guaiac, three times daily, in a capsule; later this was increased to 1/10 grain. No other treatment was instituted, except a daily laxative, and the patient continued to work. As a result of treatment no marked change occurred in the blood. There was, however, some amelioration of the general symptoms and the appetite improved.

	Feb. 28.	March 7.	March 14.	March 28.
Reds	4,500,000	4,312,000	4,500,000	4,188,000
Whites	6,000	13,000	6,000	8,500
Hemoglobin, per cent.	64	60	60	65

Case 2.—*Chlorosis.* Miss L. C., aged 18, a saleswoman, stated that her illness began about one year and a half ago, with sensations of great fatigue on slight exertion. At a later date she began to feel languid at all times, the appetite became poor and capricious, and sleep was disturbed. The patient was well nourished, the mucous membrane showing a marked anemia, and over the base of the heart was heard a soft systolic murmur. The treatment was the same as in Case 1. There was some improvement in the blood and in the general symptoms.

	Feb. 21.	March 7.	March 14.	March 21.
Reds	3,232 000	3,640,000	3,672,000	4,008,000
Whites	. . . .	7,000	9,000	9,200
Hemoglobin, per cent	35	38	39	40

Case 3.—*Chlorosis.* Mrs. E. N., aged 25, housewife, had been ill about six months, suffering with pain in the region of the heart, dyspnea on exertion, great weakness, and at times severe headache and vertigo. Her appetite was capricious; her bowels constipated. Examination revealed a well-developed, fairly well nourished patient, the skin and mucous membranes, however, very pale. The right heart was somewhat enlarged, and over both the base and apex and in the vessels of the neck was heard a blowing systolic murmur. The blood examination showed microcytes and macrocytes, and a moderate poikilocytosis. The patient, on February 25, was put on the chlorid of gold and sodium in solution, 1/20 gr. three times daily, and this was increased to 1/10 gr. in a few days. There was no other treatment instituted except a daily laxative. The patient remained in bed much of the time, but was allowed to get up at pleasure. On March 11 an examination of the blood showed a small increase in the number of red blood-corpuscles, but no increase in the percentage of hemoglobin. There was also a slight increase in the urinary solids and in the percentage of urea, but no improvement in the general health. At this time she was put on iron, under which she improved very rapidly, as is shown by the appended table.

	Feb. 25.	March 5.	March 11.	March 20.	March 27.	April 3.
Reds	2,903.000	3,164,000	3,205.000	4,000,000	4,650,000	. . . .
Whites	6,500	7,500	7,800	8 400	5,000	. . . .
Hemoglobin per cent	30	32	30	45	55	65
Urine.						
Spec. grav	1,017	. . . .	1,024	. . . .	. . . .	. . . .
Urea, per cent	2.2	. . . .	2.3	. . . .	. . . .	. . . .

Case 4.—*Chlorosis.* Miss P., aged 17, a clerk, had been ill about three months. The onset was insidious, with loss of appetite and obstinate constipation. When first seen she complained of great lassitude, shortness of breath and headache. She was well nourished, the mucous membranes, however, being somewhat pale. Her treatment commenced March 28, being the same as in Case 1, and was followed by slight improvement in general health, and some increase in the number of red blood-corpuscles. The percentage of hemoglobin, however, did not rise.

	March 28.	April 7.	April 14.	April 21.
Reds	3,650,000	3,600,000	3 672,000	4,072,000
Whites	. . . .	. . . .	7,500	6,000
Hemoglobin, per cent	35	37	38	40

Case 5.—*Secondary Anemia; Syphilis; Locomotor Ataxia.* John C., a shoemaker, aged 58 years, had been sick about two years, complaining of cramps and sharp shooting pains in the legs, and of late, difficulty of locomotion. When he came under observation, he was unable to walk except with the aid of a cane, on account of the ataxia, and had some bladder and rectal disturbance, loss of patellar reflex, and myosis with loss of pupilary reflex. His general health was also somewhat depressed, and a marked anemia was present. On February 1 he was put on the chlorid of gold and sodium, 1/20 gr. three times a day in solution. This was increased to 1/10 gr. in a week. As a result of the treatment there was a marked improvement in the general health and nervous symptoms. The gait became nearly normal, and the frequency and severity of the pains decreased. While the urea increased in amount, the total solids diminished. The blood examination showed an increase, both in hemoglobin and red blood-corpuscles.

	Feb. 1.	Feb. 7.	Feb. 19.	March 1.
Reds	4,388 000	4,588,000	4,600,000	4,700,000
Whites	7,200	10,200	9,000	6,000
Hemog'obin, per cent	60	65	73	80
Urine.				
Spec. grav	1,017	. . . .	1,012	. . . .
Total quan., c.c.	1,800	. . . .	1,728	. . . .
Urea, gms.	18	. . . .	25.92	. . . .

Case 6.—*Secondary Anemia; Syphilis.* Jas. C., aged 38, a bartender. His illness dated back about four months, although he has had several previous similar attacks; the first one occurring five years ago. The symptoms complained of were neuralgic pains, tingling and formication of the feet, shortness of breath and palpitation of the heart. He felt very languid at times, has had some diarrhea, and his feet would swell when he was on them very much. This was at first thought to be a case of pernicious anemia. In favor of this diagnosis was the emaciated condition of the patient, with flabbiness of the muscles, the extreme pallor of the mucous membranes and the yellowish tinge of the skin. The extreme reduction of the red blood-corpuscles, with nucleated corpuscles, normoblasts, and a marked poikilocytosis spoke for this diagnosis. While the red blood-corpuscles were greatly reduced, the percentage of hemoglobin was reduced in the same ratio, as the appended table shows. The other findings in the case, such as a general lymphadenitis, and enlargement of the liver and spleen, made the diagnosis of a secondary anemia more probable. The patient denied any specific history, but admitted that at one time he had a sore on his genitalia. From Dec. 28, 1898, to Jan. 27, 1899, the patient was put on the usual treatment for anemia: arsenic and iron with catharsis. During that time there was but little improvement in the general health, and the blood showed but little change for the better. January 27, the patient was put on the chlorid of gold and sodium in solution, at first in 1/20 gr. doses, and in about two weeks this being increased to 1/10 gr. Under this treat-

ment there was a marked improvement in the general health and in the condition of the blood.

	Dec. 28,	Jan. 27.	Feb. 7.	Feb. 14.	Feb. 23.	March 2.	March 9.
Reds	680,000	841,000	1,050,000	1,824,000	1,712,000	2,048,000	3,400,000
Whites	5,390	6,600	9,920	5,066	6,900	9,000	22,000
Hemoglobin per cent.	16	22	25	32	40	50	60
Urine.							
Total amt. c.c.	1,800	....	2,084	.....	1,940	.....	....
Sp. gr.	1,017	....	1,014	.....	1,020	.....	....
Urea, gr.	18	....	18.34	.....	19.42	.....	....

CASE 7.—*Secondary Anemia; Syphilis.* Emil N., aged 16, a teamster, had a hard chancre about five months ago. When first seen he complained of a sore throat, rheumatic pains, and had a rash on his body. He was well nourished and well developed. The skin showed a fading, universal, macular rash, and on the posterior wall of the pharynx was a small mucous patch. The lymphatics were generally enlarged; and at the site of the former chancre was a large indurated area. He had been treated for a few days with potassium iodid and mercurial inunctions. On February 16 this treatment was discontinued and the patient was put on the chlorid of gold and sodium, 1/10 gr. three times a day before meals. The rash continued to fade, the general health to improve, and all the secondary manifestations disappeared. The red blood-corpuscle count in a month's time went up to nearly normal, with the hemoglobin registering 70 per cent., and a marked leucocytosis. There was also an increase in the total amount of urine, the urinary solids and the urea.

	Feb. 10.	March 12.	March 18.	March —.
Reds	3,609,000	.....	4,500,000	4,600,000
Whites	9,000	.....	22,000	20,000
Hemoglobin, per cent	60	.....	65	70
Urine.				
Total amt. c.c.	900	1,200	....	....
Sp. gr.	1,020	1,018	....	....
Urea, gr.	10.8	22.800	....	....

CASE 8.—*Secondary Anemia; Syphilis, gumma of testicle.* John D., aged 47, a laborer, had syphilis about twenty-five years ago. For about two weeks the left testicle had been swelling and becoming hard. A few days ago this swelling broke down and discharged a thick yellowish material. The patient's general nourishment was poor, and the lips and conjunctivæ pale. On the lower part of the left side of the scrotum was a deep ulcer about an inch in diameter, round, with margins somewhat irregular and undermined, and the base made up of flabby granulations, covered by dirty yellowish-grey necrotic material. The ulcer extended into the indurated tissues of the testicle and epididymis. On Feb. 8, 1899, he was put on the chlorid of gold and sodium in solution, 1/10 gr. three times daily. In three weeks the blood showed a marked increase in the number of red blood-corpuscles and in the percentage of hemoglobin. The gumma of the testicle was beginning to heal when the patient discontinued treatment. There was also some increase in the total amount of urine, urinary solids and urea.

	Feb. 8.	March 4.
Reds	3,688,000	4,300,000
Whites	8,900	9,000
Hemoglobin, per cent	60	70
Urine.		
Total amt. c.c	800	1,000
Sp. gr	1,030	1,030
Urea, gr	20	25

CASE 9.—*Secondary Anemia; Empyema.* Willie K., aged 17, Dec. 13, 1898, was stabbed in the left side of the chest. The wound inflicted was about two inches in length, between the third and fourth ribs, below the axilla, and through it the lung prolapsed. At this time it was thoroughly cleansed and disinfected, and packed with gauze. Subsequently it became infected, and an empyema developed, for which a rib was resected and drainage established. At the time that treatment was commenced the patient's general nourishment was poor. The mucous membranes and finger tips showed a marked anemia. The wound of the left side of the chest was discharging pus freely. Treatment with the chlorid of gold and sodium was begun on February 12, and continued up to March 25. No improvement was noticed in the general health, nor in the blood or urine.

	Feb. 12.	Feb. 25.	March 18.	March 25.
Reds	4,576,000	4,642,000	4,780,000	4,650,000
Whites	11,800	17,600	20,000	18,000
Hemoglobin, per cent.	60	64	62	60
Urine.				
Total amt. c.c.	800	740	800	....
Sp. gr	1,020	1,030	1,020	....
Urea, gm	14.80	11.84	14.40	....

CASE 10.—*Secondary Anemia; Chronic Tuberculosis and Nephritis.* James G., aged 45, a bridge carpenter, had been in poor health for a long time. The onset was insidious, with cough and expectoration, pain in the chest and gastric disturbances. His general health had gradually failed, and he had lost in weight. On physical examination it was noted that the patient was very pale and anemic in appearance and his general nourishment poor. The chest was long and narrow, and the expansion was not equal on both sides. Over the upper portion of the upper lobes of botn lungs, but more marked on the right side, the resonance was somewhat impaired. Over these regions also the breath sounds were somewhat bronchial in character, and small moist râles were heard. The heart was negative, the liver somewhat enlarged. Over the anterior aspect of the right leg was a pigmented cicatrix. The urine contained albumin and many hyaline, granular and epithelial casts. The sputum showed tubercle bacilli. On February 13, the patient was put on the chlorid of gold and sodium, 1/20 gr. in powder, with sugar of milk; this was soon increased to 1/10 gr. three times a day. It was given in conjunction with potassium citrate, 15 gr. three times a day, and Basham's mixture, 1 dr. three times a day, up to Feb. 23, 1899. At this time the blood count showed some increase in the number of red blood-corpuscles and a corresponding increase in the percentage of hemoglobin. The general health had also improved somewhat, and the patient was able to do light work. On February 23, all medication except the chlorid of gold and sodium was discontinued. The red blood-corpuscles continued to increase in number and the hemoglobin percentage to rise. April 4, the patient died of an intercurrent pneumonia and the autopsy verified the clinical diagnosis, viz., chronic tuberculosis and nephritis.

	Feb. 3.	Feb. 14.	Feb. 23.	March 8.	March 14.	March 28.
Reds	3,093,000	3,552,000	3,533,000	3,688,000	3,700,000	4,112,000
Whites	4,600	8,133	7,133	8,800	9,000	11,000
Hemoglobin per cent.	44	45	50	55	55–60	60
Urine						
Total amt. c.c.	1,700	....	2,250	....	2,225	....
Sp. gr	1,015	....	1,014	....	1,020	....
Urea, gr	15.30	....	18	....	18.375	....

CASE 11.—*Secondary Anemia; Chronic Nephritis; Hydrothorax; Ascites.* Henry L., aged 40, a porter, was taken sick about nine months ago, with shortness of breath and cough. At a somewhat later period the feet began to swell. The dyspnea has constantly grown worse. The patient was well nourished and well developed. There was considerable dyspnea present, so that the patient had to be propped up in bed. The mucous membranes were somewhat pale. The examination of the chest showed the respiratory movement to be very much restricted. Sonorous and sibilant râles were heard universally over the chest. There was dulness behind on both sides below the angle of the scapula, and here the breath sounds were faint, and small moist râles heard.

Both the right and left ventricles of the heart were enlarged. There was some ascites present, and the edema of the lower extremities extended up to the thighs. The urine contained albumin and numerous hyaline and granular casts. The treatment was commenced Feb. 1, 1899, with 1/20 gr. doses of the chlorid of gold and sodium three times a day. Diuretics, heart stimulants and diaphoretics were given in conjunction with the chlorid of gold and sodium. The patient continued to grow worse and the treatment was discontinued on February 15.

	Feb. 1.	Feb. 9.	Feb. 15.
Reds	4,300,000	4,240,000	4,300,000
Whites	5,500	11,000	6,000
Hemoglobin, per cent	55	60	60
Urine.			
Total amt. c.c.	575	....	650
Sp. gr.	1,020	....	1,020
Urea, gr	15.52	....	16.25

CASE 12.—*Secondary Anemia; Intestinal Tuberculosis.* D. D., aged 23, a shoemaker, gave the onset of his illness as about one year ago, with vomiting of blood and great pain in the epigastric region. He gradually lost in weight, and about eight months ago a diarrhea developed, and has been present since that time. The patient was poorly nourished and poorly developed. The skin had a subicteric tinge, and the mucous membranes were pale. The lungs and the heart were negative. The abdomen was tender in the epigastric region, and in the region of the liver. The lymphatic glands of the groin, axilla and the neck were palpable. No tubercle bacilli were found in the sputum or in the feces. An injection of tuberculin gave a febrile reaction. The treatment was the same as in the previous cases. When the dose of chlorid of gold and sodium was increased to 1/10 gr. three times daily, the diarrhea became very much aggravated and there was considerable abdominal pain present. The blood and urine showed practically no change at the end of five weeks.

	Feb. 6.	Feb. 14.	Feb. 26.	March 1.	March 12.
Reds	3,136,000	4,280,000	....	4,140,000	4,180,000
Whites	25,000	22,200	....	18,000	18,000
Hemoglobin, per cent.	50	50	..	49	55
Urine.					
Total amt. c.c.	900	....	900	....	1,525
Sp. gr	1,024	....	1,018	....	1,015
Urea, gm	16.20	....	14.40	....	13.725

CASE 13.—*Secondary Anemia; Idiopathic Pleurisy.* Wm. K., aged 23, a student, had for about four weeks suffered with pains in the right side of the chest and some cough. The pain was of a lancinating character, aggravated by coughing and respiratory movements. During this time the appetite was poor and there was some fever present. At intervals the patient suffered with headache and dizziness, and he lost both in weight and strength. When examined his general nourishment was good, the sclera had a subicteric tinge, and the mucous membranes were pale. The movements of the right side of the chest were somewhat limited and, over this side, both behind and in front, could be felt and heard a coarse friction rub. About four weeks after the onset of the pleurisy the administration of the chlorid of gold and sodium was commenced in 1/20 gr. doses, and later in 1/10 gr. doses with sugar of milk. Under this treatment the appetite immediately improved and at the end of four weeks the blood and urine were about normal.

	Jan. 21.	Jan. 30.	Feb. 6.	Feb. 21.
Reds	4,512,000	4,600,000	4,840,000	4,780,000
Whites	6,200	6,800	7,400	6,500
Hemoglobin, per cent	73	75	80	85
Urine.				
Total amt. c.c	700	1,000	1,020	1,200
Sp. gr	1.030	1.028	1.025	1.030
Urea, gr	14.63	16.00	16.32	24.00

CASE 14.—*Secondary Anemia; Typhoid Fever.* Alex. M., aged 29, a tailor, was taken sick about five weeks ago with headache and general pains and later a chill. These symptoms were followed by cough, diarrhea and great weakness. Epistaxis occurred several times during the beginning of his illness. The patient was somewhat emaciated and the lips pale, tongue dry and coated with a thick, grayish-white fur, the heart and lungs negative and the abdomen not tender. The spleen was palpable. The Widal showed agglutination and immobility of the typhoid bacilli. The treatment was commenced about ten days after the fever had abated, and the patient had been put on solid foods. The chlorid of gold and sodium was given in 1/20 to 1/10 gr. doses three times daily, in distilled water. The patient rapidly improved in general health. The blood counts show a more rapid increase in the corpuscles than in the hemoglobin.

	Oct. 24.	Nov. 6.	Nov. 15.	Nov. 16.	Nov. 25.	Nov. 26.
Reds	....	3,120,000	....	3,400,000	....	4,776,000
Whites	....	....	....	....	....	....
Hemoglobin, per cent.	....	60	....	60	....	70
Urine.						
Total amt. c.c.	1,250	....	1,500	....	2,075	....
Sp. gr.	1,018	....	1,020	....	1,018	....
Urea, gr	27	....	27	....	24.05	....

CASE 15.—*Secondary Anemia; Typhoid; Syphilis.* R. H. C., aged 21, a stenographer, two weeks ago began to have headaches, pains in the joints and general malaise. He had several distinct chills, followed by fever at times, was nauseated, but did not vomit. There was no diarrhea nor constipation present, but occasionally severe abdominal pains. Epistaxis occurred several times. The patient was fairly well nourished, somewhat apathetic, and the mucous membranes showed distinct anemia. The tongue was heavily coated and the breath foul. The heart and lungs were negative. There was diffuse tenderness over the abdomen, spleen palpable, the Widal reaction positive. The chlorid of gold and sodium was administered as in the previous case. The general condition and blood improved very rapidly.

	Nov. 11, 1898.	Nov. 30, 1898.
Reds	3,600,000	4,200,000
Hemoglobin, per cent	65	72

The four cases of chlorosis showed improvement in general symptoms, slight improvement in the blood record, and the only case in which the urine was examined, some increase in elimination. Cases 5, 6, 7, 8, 13, 14, 15, cases of secondary anemia, all showed extraordinary results in hemogenesis, especially Case 6, which was phenomenal. This case made but little improvement under the ordinary tonic treatment, but under the use of the gold salt, the "red" increased five and a half times in number, the hemoglobin from 16 per cent. to 60 per cent., and the total urinary solids and urea increased. All of these seven cases showed increase in urinary solids or urea or both. No improvement was observed or could have been expected in Case 9, a case of empyema, the wound freely suppurating. Case 10, a case of chronic tuberculosis, was somewhat benefited by the administration of the chlorid of gold and sodium, which enters into the treatment of chronic tuberculosis by the Shurley-Gibbs method. Case 11 was beyond the reach of this or any other therapeutics.

A SPECIAL dispatch to the *Phila. Telegraph* states that the bubonic plague in Paraguay baffles the attempts of the medical men to stop its spread. Dr. Castillo of the hygienic department, and Drs. Voges and Delfino, have diagnosed the disease at Asuncion as the plague. In Paraguay, in 54 cases reported, 32 deaths have occurred. "Curiously enough a systematized campaign is being carried on from Paraguay to suppress the facts in connection with the epidemic."

OBSTRUCTIVE GROWTHS OF THE PYLORUS, WITH A REPORT OF A SUCCESSFUL CASE OF PYLORECTOMY.

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Growths that may cause obstruction of the pyloric orifice of the stomach are[1]: Carcinoma, simple hypertrophic stenosis, cicatricial growths following simple ulcer of the pyloric region, cicatricial growths from ulcers produced by swallowing corrosive drugs, simple hypertrophy of the coats of the stomach at the pylorus, especially of the fibrous and muscular coats, mucous polypi, and rarely sarcomata, fibromata, myomata, lipomata and cysts.

All of these excepting carcinoma and cicatricial contractions are so seldom met with that they need not command attention except to mention them here. But cancer of the stomach and other organs is of such frequent occurrence, and apparently so much on the increase, that it should command our most earnest consideration.

That cancer is one of the most potent factors in causation of death, can not be denied. Dr. Senn[2] states that in England and Wales, during ten years—1860-1870—there were 2,379,622 deaths of persons over the age of 20, and of this number 81,699 died of carcinoma, a ratio to all other deaths of 1:29.

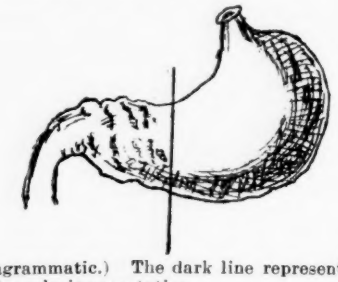

FIG. 1.—(Diagrammatic.) The dark line represents approximately the location of the pyloric amputation.

According to Dr. Joseph B. Bryant of New York,[3] the death-rate from cancer has in twenty years increased—1874-1894—from 1.82 per cent. to 2.17 per cent. of the total mortality. Heberlin[4] gives the percentage of cancer of the stomach from 1877 to 1886 as 4.1 per cent., and states that in Switzerland gastric cancer is on the increase. His statistics show that the death-rate from cancer of the stomach for 1,000 inhabitants has increased from 0.61 per cent. in 1877 to 0.99 per cent. in 1886. In England, in 1840, the proportion of deaths from cancer to the total mortality-rate was 1 in 129. This rate has increased in forty years—1840-1880—to 1 in 28. The death-rate in that country, from cancer, is now about four times as great as it was fifty years ago. In twenty years—1870-1890—the Registrar-General's report showed an increase of 53 per cent[5].

The stomach and the uterus are the organs most frequently affected with primary cancer. In 31,482 cases of cancer collected by Welch[6], from various countries, the disease occurred in the stomach in 21.4 per cent., and in the uterus in 29.5 per cent. of the cases, showing that gastric cancer occurred in about one-fifth of all primary cases. Various authors estimate the mortality-rate from gastric cancer from 0.6 per cent. to 3.5 per cent. Welch, from New York statistics, estimates that in all cases of death above the age of 20, 1 in 100 is due to this cause. From an analysis of 1300 cases of gastric cancer, the same author estimates that in 60.8 per cent. of the cases the disease occupied the pyloric region.

With these facts before us, we can see that neoplasms of the pyloric region have assumed a position of great magnitude, and that the methods and results of treatment are of the greatest interest. The forms of cancer that may affect the stomach are, according to Orth[7]: 1. The cylindrical cell or adenocarcinoma.

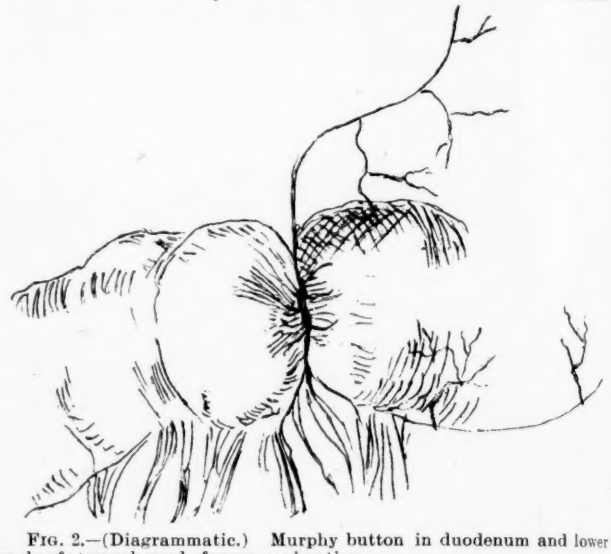

FIG. 2.—(Diagrammatic.) Murphy button in duodenum and lower angle of stomach ready for approximation.

2. The soft glandular or medullary carcinoma. 3. The hard glandular carcinoma or cirrhosis. 4. The mucous or colloid carcinoma.

Of this number the cylindrical cell or adenocarcinoma is the one most frequently found in the stomach. All treatment directed toward a permanent cure of these growths is, at the present time, limited to surgical procedure. Unfortunately, in cancer of the pylorus the diagnosis is not often made and surgical means instituted until obstructive symptoms manifest themselves; or if the diagnosis is made early the patient will not submit to radical surgical treatment until life is made burdensome by obstructive troubles. The law regarding the prognosis in operative procedures of cancer in general is especially applicable to cancer of the pylorus, viz: the earlier the operation the better will be the result. Therefore, to insure more favorable results than have heretofore been obtained, two things are im-

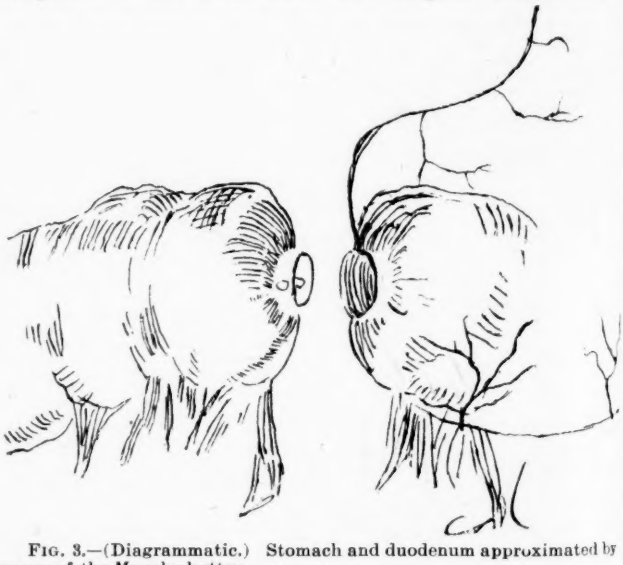

FIG. 3.—(Diagrammatic.) Stomach and duodenum approximated by means of the Murphy button.

perative: The perfection of our methods of diagnosis, and the education of the public to the point of thoroughly understanding the necessity of operating as soon as a diagnosis is made. Patients past the age of 40 should be impressed with the idea that a gastric derangement approaching a chronic condition should receive thorough study at the hands of the physician, to determine the presence of malignant disease if possible. If in the next ten years gastric disorders should receive as much study, with a view of determining the possibility of malignancy, as the subject of appendicitis has received in the last ten years, radical operations on the stomach would show a vast improvement in the percentage of recoveries.

The various operations designed to relieve obstruction of the pylorus are[8]: 1. Gastro-enterostomy, which is only a palliative measure. 2. Digital divulsion of the pylorus—Loreta's operation. 3. Pyloroplasty. 4. Pylorectomy or resection of the pylorus, of which there

FIG. 4.—Photograph of pyloric end of stomach after lying in alcohol 1½ years. (¼ nat. size.) p. pyloric orifice.

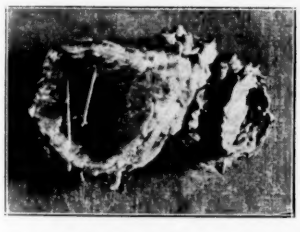

FIG. 5.—Photograph of pyloric end of stomach after lying in alcohol 1½ years; showing point of amputation. (¼ nat. size.)

FIG. 6.—Photograph of a portion of the transverse colon. *a*, stricture near hepatic flexure; *b*, stricture near splenic flexure; *c*, point of perforation and lodgment of Murphy button.

are three types: *a*, typical, total or circular pylorectomy. *b*, a typical pylorectomy, which consists of a combination of pylorectomy with gastro-enterostomy. *c*, partial pylorectomy.

*Gastroenterostomy**.—This operation was first devised by Wölfler, and consists in establishing a communication between the stomach and a portion of the intestine below the duodenum. It is merely a palliative measure and, according to some authorities, its rate of mortality is nearly as high as is that for pylorectomy, while the remote results are less favorable than in pylorectomy.

* For the description of the various operations on the stomach, and for statistics relating thereto, we are indebted to a number of authors, but especially to the work of Dr. John C. Hemmeter, on "Diseases of The Stomach."

Digital Divulsion of Pylorus.—This procedure was first practiced by Loreta, and consists in opening the stomach and gradually forcing one or two fingers through the contracted orifice, or the dilation may be accomplished with instruments. The application of the operation is limited, and Haberkant, who collected 31 cases of Loreta's operation, reports a mortality of 38.7 per cent.

Pyloroplasty.—This operation originated with Von Heinecke, in March, 1886. Mikulicz, without knowledge of Von Heinecke's work, used the method in February, 1887. Since this date various surgeons have performed the operation, usually with satisfactory results. Dr. W. J. Mayo of Rochester, Minn., reported five cases[9] in 1897, on whom he had successfully performed pyloroplasty. The operation is especially applicable to non-malignant cicatricial stenosis. It is performed by making an incision through the cicatricial tissue on a line parallel with a line passing through the pyloric lumen. The wound is then pulled apart, which procedure widens the caliber of the pylorus, and the wound is then sutured together transversely.

Pylorectomy.—The first experimental work for pylorectomy was done by Merram, on dogs, in 1810. This work was farther advanced by Gussenbauer, Von Winniwarter, Kaiser and Czerny. Haberkant mentions a total extirpation of the stomach by Dr. Connor of Cincinnati, as a surgical curiosity, the patient dying before the operation was completed. Torelli, in 1878, did the first gastric resection, removing a portion of the stomach 16 cm. long in case of a stab wound with prolapse of the organ. Billroth, in the same year, healed a gastric fistula by exposing the stomach and suturing it. The first pylorectomy was done by Péan in 1879, and one was performed by Rydygier in 1880, but both patients died. In January, 1881, Billroth performed the first successful pylorectomy.

Total pylorectomy is one of the most formidable operations, and in the earlier cases the mortality-rate was extremely high. According to Senn,[10] in sixty-six cases death resulted in fifty. According to Tillmann[11] the mortality of the earlier operations ranged from 57.4 to 61.4 per cent.

In spite of these facts we believe that in the near future our methods of diagnosis and the technic of operating will be so advanced that pylorectomy will be performed with no greater mortality-rate than follows any operation in the abdominal cavity for a similar disease.

If we compare the early mortality statistics with those of later years we can already see the result of improved methods. While the mortality from 1881 to 1885 was 61.4 per cent., from 1886 to 1892 it was reduced to 34.3 per cent.[12] Haberkant[13] collected the statistics of 205 cases, and grouped them into two periods, the first—1881 to 1888—showed a mortality of 62.8 per cent., the second—1888 to 1895—one of 45.1 per cent. He estimates that for carcinoma this is a reduction from 65.4 to 42.8 per cent. and for benign pyloric stenosis a reduction from 42.8 to 27.7 per cent. In 1882, of thirteen cases of resection for carcinomata, all died; in 1893, of eight cases, all lived.

In judging of the value of this operation we must take into consideration the immediate and the remote results. As to immediate results, Haberkant[14] tabulates 379 cases of pylorectomy from the records of different operators; 191 recovered and 188 died. Of the total number operated on, 175 were for carcinoma, of which 130 recovered and 145 died. As to remote results, the same author's

tables show that the cases recovering from the immediate effects of the operation died from one and one-half months to eight years afterward. One of Billroth's cases lived five and one-quarter years, one of Wölfler's five, and one of Kocher's five and one-third years. Rydygier reports a patient living in good health at the end of six years, during which time she had given birth to two children. One case of Ratimmow's was living at the end of eight years. It is true that at first thought these are not very encouraging statistics; yet when we take into careful consideration all the facts and circumstances relating to cases of this character, the operation of pylorectomy does not suffer as much by comparison with other operations for carcinoma as would at first appear.

The remote results of operations for carcinoma of the breast are, all things considered, but little better than those for pylorectomy. According to Tillmann[15], the average duration of life after the beginning of the disease, for those operated on for carcinoma of the breast, is 27.4 months, and for those not operated on, 20.5 months, a difference of but seven months in favor of the operation. Sibley, quoted by Senn, says that in 78 patients not operated on and 63 operated on for carcinoma of the breast, the latter lived one year and nine months longer than the former.

The number of permanent cures for mammary cancer, compared to the number of operations for this malady, are in reality but few; yet we do not hesitate to recommend it, for it is the only hope of prolonging life. In later years the percentage of supposed cures—the patients having no return of the disease after three years—is estimated, by various authors, at from 4.7 to 22.5 per cent. This improvement in the percentage of cures is due to the improved methods of operating—the thorough removal of lymphatic glands, fat and cellular tissues, in all cases from the axillary region. What then may we not expect in the future, in fact are, already beginning to realize from improved methods of diagnosis and more perfect technic in the operation of pylorectomy.

We have already observed that the mortality has been reduced in cancer cases, from 65.4 in 1879 to 42.8 per cent. in 1887. When we consider that it is only since the period of aseptic and antiseptic surgery that the abdominal cavity could be safely invaded, that the stomach is a vital organ in a comparatively inaccessible region, and that the operation is usually postponed until the patient is exhausted from the effects of obstruction, the wonder is, not that pylorectomy at the present time is a very fatal operation, but that it could be attended with success at all.

Diagnosis.—According to Jakob[16], the symptoms indicative of carcinoma of the stomach are: Occurring in persons between 40 and 60 years of age, insidious in outset; appetite is lost and strength fails; gastric derangement with pain, eructation and heartburn; later, vomiting of food and stagnation of food; eventually, hemorrhage with vomiting of matter having the appearance of coffee grounds; increased cachexia, absence of free hydrochloric acid, with the presence of considerable lactic acid in the gastric juice. Frequently a tumor may be felt in the region of the stomach, being slightly movable with respiration, if not adherent to the liver. The duration of the disease may be from six months to a year and a half.

It is a well-known fact that cancer cells do not multiply by simple division—fission—but by indirect division—karyokinesis. Therefore, it is suggested by Hemmeter that attempts be made to find in the stomach's contents, cells undergoing this indirect division. He says: "Whenever we find pieces of mucosa in which the glandular ducts are elongated and dilated and the cells present numerous karyokinetic figures and forms of mytosis, and where asymmetrical and hypochromatic forms are found, the possibility of the existence of carcinoma must suggest itself even when typical carcinoma cells are absent." He suggests feeding the patient per rectum, for forty-eight hours; washing out the stomach with normal saline solution, using a rubber stomach-tube with a sharp chisel-shaped edge around the lower opening, which is more likely to dislodge surface particles, then allow the detritus in the fluid to settle in a conical glass, or bring it down with a centrifuge for careful microscopic examination.

The presence of a large number of the long ball-bat-shaped Oppler-Boas bacilli in the gastric juice, supposed to be the cause of lactic acid formation, and the continual absence of free hydrochloric acid, while not pathognomonic of cancer, have considerable weight in determining the diagnosis. If a tissue shred is obtained with characteristic carcinoma cells, the diagnosis is positive.

REPORT OF CASE OF PYLORECTOMY.

In speaking of my case as a successful pylorectomy, I refer to the immediate and not to the remote results, for, although the case rapidly recovered from the operation, death occurred two months later in the peculiar manner hereafter related.

On June 10, 1897, I was consulted by Mrs. H. W. B., 28 years old, married and mother of two children, the oldest 3, and the youngest one year old, being born July 27, 1896. About two months before the birth of this child she began to have sharp pain in the region of right costal arch, radiating up the side to the right shoulder, and lasting about half an hour, or until relieved by medicine. These attacks occurred every two or three weeks up to the date of the birth of her child; after this the attacks still occurred, but were less severe, and the pain became localized in the right hypochondriac region. Three or four weeks after labor she discovered a tumor in the right hypochondriac region, which she described as being movable and sometimes difficult to find. Some weeks previous to this time she commenced to have stomach trouble after eating; this trouble gradually grew worse, and for six months nearly every meal has been vomited from one-half to three hours after eating. She has lost much flesh during the last ten months. Her normal weight was 125 pounds, present weight 89, a loss of 36 pounds.

The general appearance of the patient at this time suggested lack of nutrition, but not cachexia. Physical examination revealed a tumor lying under the umbilicus, the size, form and consistency of a kidney, the concave surface being turned downward and to the left. The kidney could be palpated on the left side, but not on the right. The tumor could be moved two or three inches toward the left, but much less though slightly to the right. The pelvic organs were normal.

Though the symptoms were those of pyloric obstruction, the fact that the patient was young for malignant trouble, was not cachectic, and that the right kidney could not be palpated, led me to question whether the kidney of the right side could have been displaced during pregnancy and afterward become fixed by adhesive inflammation, the origin of which might be in the bile tracts—the vomiting being caused through reflexes. Operation was declined.

Six weeks from this time the patient returned, more emaciated, the tumor more fixed, and willing to submit to an operation if it seemed advisable. She entered the hospital August 30, and on September 1, assisted by Drs. P. L. Markley, Frank H. Edwards and F. H. Culhane, I made an exploratory laparotomy, following it with a total extirpation of the pyloric end of the stomach, in the following manner: An abdominal incision was made, four inches in length, along the outer border of the right rectus muscle, the center of the incision being opposite the umbilicus, at which point the tumor was located. The tumor and a portion of the stomach were drawn out through the incision after some peritoneal adhesions were released, with the fingers, about the under surface of the growth and about the duodenum. There were no adhesions to the liver or pancreas. The omentum along the greater curvature of the stomach was ligated in sections, with double rows of strong catgut to a point a little beyond the neoplasm. The omentum was then cut away. The lesser omentum was treated in the same manner. The raw surfaces of the great omentum were brought together and buried by a continuous Lembert suture of catgut. The duodenum was compressed with Murphy's intestinal clamp and cut off near the pylorus. During the manipulations that followed, the clamp was displaced and considerable bile flowed into the peritoneal cavity. The duodenum was then simply plugged with sterilized gauze. A circular incision was made with a scalpel, around the stomach a little beyond the limits of the tumor, passing through the serous and muscular coats. The amputation through the mucous coat was completed with the scissors while the stomach was held by an assistant.

Although the patient had taken only liquid food for several days, when the amputation was made a number of chunks of meat and potato too large to enter a stomach-tube, and some liquid, poured out of the stomach and were received in a receptacle.

The mucous coat was brought together with a continuous Lembert suture of strong silk—No. 11 or 12—to within one inch of the lower angle. The serous and muscular coats were approximated with a continuous Lembert suture of formalized catgut. Over this was placed a continuous Lembert suture of fine catgut embracing only the serous coat. A purse-string suture was inserted around the opening left in the lower angle of the stomach, where the duodenum was to be attached, and the male half of a Murphy button inserted and secured in the usual way. Owing to a compensative hypertrophy of the muscular coats of the stomach, the tissues were very thick, so that the serous and muscular coats only were secured by the purse-string suture for the bite of the button. The other half of the button was placed in the duodenum, the purse-string suture tied, and the approximation made by pushing the button together. The abdominal wound was closed with silkworm gut sutures which included the peritoneum as well as the other tissues of the abdominal wall.

The tumor removed measured 5½ inches along the line of the greater curvature, a little more than four inches on a line passing through the lumen of the pylorus, and in thickness two inches. According to Gray, the stomach, when moderately distended, measures twelve inches in its longest diameter. Therefore, fully one-third of the stomach was removed by the operation.

The patient recovered rapidly from the operation. The highest temperature was on the evening of the day of operation—100.8° F. At noon on the following day the temperature was normal and remained practically so during her convalescence. The wound healed by first intention and the stitches were removed on the tenth day. On the eleventh day she sat up one hour, and on the fourteenth day walked out of the hospital and went by carriage to a friend's house, a distance of half a mile. The third week she returned to her home fifty miles away, by rail.

After-Treatment.—When the operation was completed the pulse was 140 and weak. Before leaving the table one pint of hot normal saline solution was given under each breast, and one quart injected into the colon through a long rectal tube, the hips being elevated. Strych. sulph., 1/20 gr. hypodermically every three or four hours, brandy hypodermically every half hour to every two hours as indicated by the pulse, and one pint of normal saline by enema as required for thirst, was ordered. No opiates were required for pain, and only once was an anodyne given—chloral hydrate, grs. xv, per rectum—to produce sleep. Nutrition was maintained for four days, by rectal feeding; liquid food was given on the fourth and light solid food on the tenth day.

For a month and a half the patient continued to improve rapidly and engaged in her usual occupation. Faithful watch had been kept for the Murphy button, but it had not been procured. On October 15, 1½ months after the operation, the husband wrote that the patient had gained 6½ pounds, but was having griping pains in the bowels, and during these pains a lump could sometimes be felt in the abdomen. On the night of the 19th, after returning from a party, she ate heartily of raw oysters, and soon after was taken with an intense pain in the abdomen, followed by all the symptoms of perforating peritonitis. I was out of town and Drs. Windmueller and Pryne of Woodstock, attended, but I saw the patient on the 22d. Her temperature was 103 F., pulse 130, abdomen greatly distended, and she was too weak for operation. I expected the condition to prove fatal in twenty-four hours. At the expiration of this time, however, her physicians reported some improvement, and I opened the abdomen in the median line below the umbilicus, letting out several quarts of fluid, the color and consistency of chyme, with some pus. Drainage was maintained with gauze. On the 26th, two days after, Dr. Windmueller reported that the patient seemed better: "Pulse 120, full, fairly strong; temperature 98.6 F.; tongue clean; complains of having an appetite." Two days later she died from exhaustion.

Post-Mortem.—Considerable pus and fluid was found in the abdomen. The intestines were matted together and covered with lymph exudate. Union of the stomach coats and of the duodenum to the stomach was perfect. A large perforation was found in the transverse colon, a few inches beyond the hepatic flexure. At this point the Murphy button was found, held there by a tight stricture of the intestine. A second stricture was revealed near the splenic flexure, through which could be passed an object about the size of a lead-pencil.

Regarding the character of the pyloric tumor and the strictures of the colon, I submit the following:

KLEBS' PATHOLOGICAL LABORATORY,
CHICAGO, Sept. 27, 1899.

In reply to your favor will say that: 1. The growth and stricture are carcinomatous. 2. The histologic picture shows an abundance of stroma with but few epithelial cells distributed in the same. They must have been of slow growth.

[Signed.] F. R. ZEIT, Assistant Pathologist.

In conclusion I would observe that:

1. Cancer is one of the most potent factors in the causation of death with a tendency to constantly increase in frequency of occurrence.

2. Gastric cancer occurs in about one-fifth of all primary cases.

3. In gastric cancer the pyloric region is affected in 60 per cent. of the cases.

4. The treatment of gastric cancer directed toward a permanent cure is, in the present state of our knowledge, limited wholly to surgical methods.

5. As early total extirpation of malignant growths with the hope of permanent cure, is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in 60 per cent. of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently employed for the cure of this malady.

6. Inasmuch as early diagnosis is the greatest requisite for directing proper radical treatment, the internist and the surgeon should turn their best efforts in this direction.

7. If the operation of pylorectomy be performed before obstructive symptoms manifest themselves and before the occurrence of metastasis, the immediate results will be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

TRAUMATISMS OF THE MALE URETHRA—WITH REPORTS OF TWO CASES.*

BY CHARLES W. HITCHCOCK, M.D.
DETROIT, MICH.

To even comment on the wisdom and nicety with which are protected the canals and organs on the integrity of which life itself depends, is almost trite, and nothing more justly elicits such admiration than the anatomic structure and situation of the urinary organs and tract, from the kidney to and including the urethra.

Another trite saying, "it never rains but pours," so frequently illustrated in the physician's experience in the successive occurrence of similar cases, was exemplified in my practice recently by two cases of traumatic rupture of the male urethra, within two weeks of each other, whereas I shall probably not see another case for years to come, since, happily, this canal is seldom the site of violent traumatisms, and their seriousness may well be said to be in direct proportion to their rarity.

Though I run the risk here of "carrying coals to Newcastle," still it may not be wholly unprofitable to briefly call to mind the anatomy of the urethra, which tubular canal is commonly from eight to nine inches in length and is divided, anatomically, into: 1, the prostatic portion, the widest and most dilatable part of the canal, passing through the prostate gland and about one and one-half inches in length; 2, the membranous portion, extending from the apex of the prostate to the bulb of the corpus spongiosum and perforating the dense deep perineal fascia, or triangular ligament—the narrowest part of the canal, and very short, only measuring about three-quarters of an inch along the upper wall, and about one-half inch along its lower surface; 3, the spongy or penile portion, about six inches in length and further divided into the bulbous and pendulous portions. The closeness of the lateral attachment of the deep superficial fascia and its mersion posteriorly with the deep perineal fascia is to be noted, since this commonly forces the escape of urine extravasated in the perineum forward into the loose tissue of the scrotum and penis. Clothed in three coats—a mucous, a muscular and an erectile—this important passage is so well situated relatively to other portions of the anatomy—protected by the symphysis pubis above and the thighs and rami ischii laterally, and so movable withal—that it ordinarily performs its functions undisturbed by trauma, save such as youthful indiscretion or the superfluous zeal of its possessor may invite, but now and then its precincts are invaded—and incised, lacerated and contused, or punctured wounds may result; but if the urethra escape without complete rupture at some point of either the anterior or posterior wall, the injury may be of trifling importance.

In a study of over two hundred cases of urethral rupture (Kaufmann, quoted by White and Martin), falling astride was assigned as the cause in 80 per cent., perineal blows in 12 per cent., being run over by vehicles in 4 per cent., and being unseated on the pommel of a saddle in 4 per cent.

Much depends on the line of force, whether it be lateral or vertical. If the former, the injury will be from compression against one of the rami of the ischium; if the latter, from compression against the symphysis pubis. Here the lower wall of the urethra usually ruptures first, and may alone be torn, though there is contusion of the surrounding structures, the bulb, the perineal structures, and the attachment of the cavernous bodies. The membranous and bulbous portions are the parts which suffer most frequently.

My two cases are as follows:

CASE 1.—Jan. 4, 1899, I was called to see Charles C., who had been injured the day before. I found an active, wiry, muscular man of 41, who, while employed in rolling a heavy iron coping in which car-wheels are molded had received a blow on the perineum. He was working in a position astride of the coping, and as it had projecting lugs on its perimeter, it rolled jerkily from one lug to another, one of them, as it came over, catching him in the perineum. He experienced no great pain at the time, but bled quite freely from the penis that night.

I found him, at about 10:30 a.m., with a temperature of 102 F. and a pulse of 110, hard and wiry. There was considerable perineal tenderness, but no swelling or other objective evidence save the blood escaping from the penis. He had passed several ounces of urine, but in small quantities and with considerable pain following. A small gum catheter was finally passed with difficulty, but very little urine was obtained. There was evidently a solution of continuity of the urethral wall—the mucous coat at least—at about the bulbo-membranous junction.

At 6 p.m., hot applications having been kept on the perineum and salol and quinin having been given in appropriate doses throughout the day, he was easy, with temperature 100 F. and pulse 86. There was no pain except on urination, when there was much tenesmus. All urine passed was very bloody.

There was no swelling in the perineum, the tenderness seemed less, and there was no other possible sign of extravasation save that the temperature the second morning was 102 F., and the pulse 88. He was comfortable throughout the day, excepting that he had a chill that afternoon, which was reported to me the next day, the third day after the injury, when his temperature was 101.5 F. and pulse 116, with perineal tenderness much less and less pain on urination. He was evacuating about a normal quantity of urine, which was still quite bloody and was now slightly ammoniacal in odor. He seemed comfortable, cheerful, and had no chill.

* Read before the Surgical Section of the Michigan State Medical Society.

The fourth day after injury, he was seen somewhat hurriedly and was found feeling particularly good. I have no record of pulse or temperature, but I recall that he was sure that "he had no fever and was all right." He was doing and feeling so well that he was not seen on Sunday, the fifth day after the injury, but telephoned me along in the evening that his penis and scrotum were slightly swollen, the first positive sign of extravasation.

Early on the morning of the sixth day, he was found somewhat anxious, the scrotum and penis quite edematous, temperature 103 F., pulse 120, and was told that operation was inevitable, but refused it until consultation could be had. Dr. Robbins saw him with me at 6 p. m., when the pulse was 112 and temperature 102.6 F., the urethra passable to catheter, but with difficulty. The doctor concurred in the advice already given and kindly assisted me in the operation, which was done at St. Mary's Hospital, that evening.

On cutting through the deep superficial fascia and into the fibers of the accelerator urinæ, a small clot about the size of a large pea marked the especial point of hemorrhage at about the bulbo-membranous junction. Extending both above and below this point was a ragged wound of the lower urethral wall. The urethra was not now passable, either from above or through the perineal wound, to catheter or sound, and so incision was made to allow of free opening into the bladder, and the catheter was passed through the penis and left in situ for the first four days. The patient made an uninterrupted recovery and at the end of four weeks left the hospital, still having a small fistulous opening through which some urine escaped, but this soon closed entirely and he is now as well as ever, coming to my office twice a week to have a sound passed. He once failed to come for eight days, and the contraction was such that, whereas I ordinarily pass a French No. 24 with ease, I could only then pass with difficulty a No. 10, gradually dilating up to 24, and causing him considerable hemorrhage.

Case 2.—January 18, just two weeks after my first visit to Case 1, I was called to see H. B., a laborer, 42, a healthy German who, the day previous, had missed his footing on some iron work, one foot slipping through in such a way as to throw his perineum in violent contact with an upright piece. He finished the day's work, but noticed that the first urine passed was bloody, and during the night he had some trouble in passing urine and experienced a little pain.

I saw him about 11 a. m., when his pulse was 76, temperature 99.5 F. On passing a sterile, soft-rubber catheter, it encountered a roughness at about the membranous portion, slipped by it, and readily passed in up to the end, but withdrew no urine. Moreover, it slipped in with such ease as to make it evident that it had passed out of the urethra. I at once told him the seriousness of his condition, advising his going to a hospital for immediate operation. He consented and I operated at 4 p. m. the same day at Grace Hospital.

When prepared for operation, the perineum and sides of both thighs presented areas of ecchymosis. The usual incision for external perineal urethrotomy, in "the line of safety," was made, and just underneath the deep layer of the superficial fascia, I cut through the middle of a clot about the size of a small walnut, which, when evacuated, exposed the site of the urethral wound, the extent of which—about one inch in length—was only revealed by forcibly parting the tissues. A sound was easily passed and sutures were so placed as to completely close the urethral wound, including all its coats. The sound was then withdrawn, a catheter passed, the sutures tied, and the external wound closed, except at its lower part, with the sutures of silkworm gut.

The catheter was left in situ for four days, then withdrawn, and all urine passed readily through the natural channel. Had it not been for an infection which I attributed to the chromicized catgut, and which gave no trouble after the pus was promptly evacuated on the sixth day, I should have had an entire closure of both wounds, perineal and urethral, by first intention, and an earlier complete recovery. Some urine escaped through the perineum, after evacuation of the abscess, but at the end of three weeks it was all discharged by the penis and the perineal wound was almost entirely closed to the surface. Recovery was uninterrupted, and he now comes to the office once a week to have a sound passed. The only evidence of much tendency to contraction here was evident after a two weeks' absence, when the No. 24, usually passed with ease, was passed only with some difficulty and occasioned some hemorrhage.

These are cases likely to occur in the practice of any physician, and present some practical points as to treatment. The escape of blood indicates a laceration of the mucous membrane, but other evidence must be sought to learn the extent and depth of the lesion. In Case 1, the obstructed urethra made me suspicious of rupture through the entire wall and yet the fact that the canal was passable, though with a little difficulty, and that there was but little perineal tenderness and no swelling, and no evidence of extravasation, made me doubt the depth of the wound and led me to an expectant plan of treatment rather than to insistence on immediate operation.

The one strong indication as to probability of rupture entirely through the wall was the persistently high temperature, and I question whether this should not have been my guide to earlier operation, say as early as the first or second day after injury; for I take it that, so soon as you are satisfied as to complete laceration of the urethral wall, there can be no doubt as to the course to pursue, in spite of the fact that even deep wounds of internal urethrotomies heal kindly without much disturbance. I seriously question whether an earlier operation would not have secured more prompt healing, less formation of cicatricial tissue, and so less tendency to subsequent contraction.

Doubtless, both these patients will need, for the rest of their lives, the occasional passage of a sound to ensure their bodily comfort and peace of mind. Pressure, hot applications, urinary antiseptics, etc., are recommended even by the best authorities as the proper line of treatment in cases uncomplicated by retention, but it seems to me that if in any case of injury to the urethra, we can establish a diagnosis of laceration through the three coats of the canal, it may be fairly assumed that the expectant plan is not a wise one to follow, and that early operation is far better both for the present and ultimate good of the patient.

The necessity for careful asepsis, the least manipulation of such injuries consistent with reasonable diagnostic information, sterile sounds, catheters, etc., has not been emphasized above, as these are matters, the importance of which goes without saying.

Both of these patients are now pursuing their ordinary avocations and experience no need of any further use of the sound.

132 Henry St.

The main building of Mercy Hospital, Des Moines, Iowa, was dedicated November 15. It is 121x50 feet and cost $70,000.

SURGICAL TREATMENT OF UTERINE DISPLACEMENTS, RESULTING FROM LACERATION OF THE PELVIC FLOOR.*

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DENVER, COLO.

My colleague just preceding has spoken of the surgical treatment of lacerations of the pelvic floor which in itself is oftentimes sufficient to correct the resulting uterine displacement. The subject allotted to me, undoubtedly, is that especial surgical treatment demanded in those cases in which plastic operations are not deemed sufficient, and it therefore becomes necessary to adopt more radical procedures.

The uterine displacements which may demand operation are retrodisplacement and prolapse. Prolapse being simply a condition following or secondary to retrodisplacement, as the uterus in all cases before it can become prolapsed must be in a state of retroversion, we shall confine our remarks to the radical means of treating retrodisplacement of the uterus. Various operations have been devised to meet the indications for treatment of this condition, the principal of which are ventrosuspension of the uterus, which is also called ventrofixation, hysterorraphy or hysteropexy; and Alexander's operation. To these two, which may be called classic operations, may also be added vaginal fixation, and an operation recommended by Aubean of France, and later by Pryor of New York, which we will speak of later.

It may not be out of place to give the indications for the radical treatment of this condition, for all cases do not demand such measures. The question then naturally arises: Is a retrodisplacement an abnormal one and an indication for operation?

It is a recognized fact that the normal uterus is freely movable and constantly changing its position according to its environments. Baldy, in a recent discussion on this subject, stated that "there is no normal position of the uterus, it being a movable organ," and that "if the supposed displacement produces no symptoms, that position is normal to that woman." It may be stated then that all retrodisplacements do not call for radical treatment, but that those cases in which the subjective symptoms can be traced to the displacement *per se* should be treated accordingly.

Each of the operations mentioned above has its indications and contraindications, so that a careful study of each case will determine the operation suitable.

VENTROSUSPENSION.

It may be an interesting historic fact to mention that Dr. Thomas H. Hawkins, one of the members of the Colorado State Medical Society, was the first to perform this operation, done on the third day of January, 1883, in this city. The tubes and ovaries were removed at the same time, and this was the first operation of this kind done in Colorado. Later the operation was performed in Germany, and by Howard Kelly of Baltimore, who published a paper reporting his first case, April 25, 1885. The priority of ventrosuspension therefore belongs to Colorado.

The field of this operation is larger than that of any of the others. Its indications are a retrodisplaced uterus, adherent or not, producing symptoms; when the uterus is large and heavy and particularly when complicated by unilateral or bilateral pelvic disease.

The advantages of the operation are that it requires but one incision; it is easily performed and takes but a few moments, and the adnexæ can be examined and removed if necessary, or treated according to indication.

Various objections to ventrosuspension have been raised by different operators, none of which to my mind are pertinent. An increased danger of abortion and difficult labor have been mentioned without, I think, much foundation. The percentage of abortion in women who have not received such operations is large enough, as we find mentioned in various books of obstetrics that at least 20 per cent. of all pregnancies end in abortion. On the other hand, in statistics of seventy-five cases operated on at Johns Hopkins Hospital, fourteen afterward became pregnant, and only one is reported as having miscarried, and then only after violent dancing. It is true that a number in this series had some abdominal pain during the months of gestation, but whether this was due to the fixation or not, I am not prepared to say.

Dr. Chas. P. Noble, in an exhaustive article, reports 808 cases by American operators, in which 56 afterward became pregnant, and only 6 aborted. Complications at labor were as follows: forceps delivery, 3; Porro operation, 1; retained placenta, 2; uncontrollable vomiting—labor induced—1. He draws the following deductions: 1. That women subjected to this operation are less apt than others to become pregnant. 2. That pregnancy and labor, as a rule, are uncomplicated. 3. That uterine inertia is not infrequently met with. 4. That serious or insuperable obstruction to labor may be produced if the fundus and anterior wall of the uterus are imprisoned below the point of attachment between the uterus and abdominal wall. These conclusions certainly speak for themselves and need no comment.

There are various methods, by as many different operators, of performing ventrosuspension. Some use buried sutures, others use through-and-through removable ones, and still others use so-called living sutures. Probably the best and most satisfactory operation is that advocated by Dr. Kelly, but slightly modified, in which, after the preliminary work, the uterus is suspended from the peritoneum by two chromicized catgut sutures which pass through the uterine muscle just posterior to the crest of the fundus. The mortality from this operation is practically *nil,* as it is by far the most simple abdominal operation performed. On examining the woman a year or so after the operation, if it has been properly done, "the uterus will be found lying in easy anteflexion with its posterior surface 3 to 5 cm. distant from the anterior abdominal wall."

OPERATIONS ON ROUND LIGAMENTS.

Alexander's operation is also a suspensory operation, the round ligaments being used to hold the uterus in a permanent anteverted position. The round ligaments normally are simply guy ropes preventing too much backward movement of the uterus, and are in no way suspensory until the uterus has become prolapsed. Alexander's operation is becoming more popular every day as operators become acquainted with its advantages. The indication for this operation is clearly defined and is a pathologically retrodisplaced uterus, which is not adherent and in which there are no complications, such as a tumor of the uterus or adhesion and inflammation of the uterine appendages. The operation should be performed as recommended by Edebohls, who has probably

* Read in a Symposium at the recent meeting of the Colorado State Medical Society.

practiced it oftener than any other operator in this country. Some of the disadvantages of Alexander's operation are the difficulty of finding and isolating the round ligaments, the inequality and possible friability of the ligaments, and two incisions, thus a double liability of hernia.

The round ligaments are also shortened by intra-abdominal operations which were devised by Wiley and Dudley, both of these consisting in making a median incision, the round ligaments found within the abdominal cavity and folded on themselves and held in this position by suitable sutures. Neither have any advantage over either of the above-mentioned operations.

VAGINAL FIXATION.

This operation should be mentioned only to be condemned. It is impracticable; it is difficult to perform, and it puts the uterus in an unnatural position. It is an operation which has frequently been done abroad, but in this country has not met with much favor.

Aubean's and Pryor's operation, as mentioned previously, consists in opening through Douglas' pouch, breaking up adhesions and replacing the uterus. Gauze packing is introduced below and back of the uterus; this remains *in situ* for several days, when it is removed. New adhesions form posteriorly to the cervix, thus holding the cervix up and tilting the body forward. This operation may be of value in some cases, especially where the abdominal operation is objected to on account of the scar resulting, otherwise the operation of ventro-suspension or Alexander's operation should be performed according to indications.

Therapeutics.

Treatment of Eczema.

Dr. J. N. Hyde, in "Twentieth Century Practice," recommends the following prescriptions:

℞. Pulv. amyli.....℥i
Pulv. zinci oxidi.....3ii
Pulv. camphoræ.....3ss

Make an impalpable powder. Sig. For external use.

The Lassar paste is very commonly employed, and is to be recommended. Put up according to the following, the author has found it particularly good:

℞. Zinci oxidi.....3ii
Talc.....3iii-iv
Acidi salicylici.....gr. v-x
Vaselin.....℥ss

Make an impalpable paste. Sig. For external use.

The glycerin jellies and varnishes, as suggested by Pick, of Prague, may be medicated in any way so that any desired ingredient may be applied to the skin, as for example:

℞. Gelatin.....15 parts
Zinc oxid.....10 parts
Glycerin.....30 parts
Water.....50 parts

Mix by gradual heating. When used, melt and apply with a brush.

The Treatment of Gout.

Cholagogues and alkalies are as necessary in the treatment of this disease as in acute articular rheumatism. Indeed the same treatment, both internal and local, should be adopted, save the administration of salicylic acid, for which colchicum should be substituted.

The preparations of colchicum vary greatly in quality, and, in order to derive the fullest benefit from this valuable drug, only preparations from the most reliable pharmacists should be employed. The value of this remedy is more apparent in acute than in chronic gout, and in the first attacks than in succeeding ones. Chronic gout as well as chronic rheumatism, yields better to a combination of colchicum and potassium iodid than to colchicum alone. In giving the drug it is best to avoid, if possible, any untoward manifestations, such as vomiting and purging. The initial dose, therefore, should be small, that it may occasion no gastric disturbance.

The following prescriptions containing colchicum have been recommended for gout:

℞. Magnesii sulphatis.....3ii
Potassii bicarbonatis.....gr. xv
Tinct. colchici sem.....m. x
Infusi buchu.....℥i

Ft. haustus. Sig. To be taken every four or six hours, followed by a large draught of water, not too cold.

—*Fothergill.*

℞. Vini colchici sem.....3iii
Spt. ammon. aromat.....3xiii
M. Sig. One teaspoonful every three hours.

—*Bartholow.*

℞. Vini colchici sem.....3iv
Potassii iodidi.....3ii
Liq. potassæ.....℥iss
Syrupi zingiberis.....℥ii
M. Sig. Teaspoonful twice daily in warm water.

—*Hodgson.*

℞. Ext. digitalis.....gr. iiiss
Quininæ hydrobrom.....gr. xxvii
Colchici sem.....gr. viii
M. Ft. pil No. xii. Sig. One morning and night.

—*Becquerel.*

℞. Tinct. stramonii.....4 parts
Tinct. colchici sem.....6 parts
Tinct. guaiaci.....60 parts
M. Sig. Teaspoonful three times a day in milk.

—*Gayle.*

℞. Hydrarg. chloridi mitis
Aloes
Pulv. ipecac
Ext. colchici rad., āā.....3i
M. Divide into sixty pills. Sig. One three times daily.

—*White.*

℞. Lithii benzoatis.....3iiss
Sodii phosphatis.....3v
Tinct. colchici sem.....3iiss
Aquæ cinnamomi, q.s., ad.....3iv
M. Sig. Dessertspoonful two or three times a day.

—*Butler.*

℞. Euonymin
Leptandrin, āā.....gr. ½
Podophyllin.....gr. ¼
Pulv. ipecac
Ext. aloes
Hydrarg. chloridi mitis
Ext. colchici rad., āā.....gr. i
M. For one pill. One every three or four hours until free purgation ensues.

Ipecac in Feeble Digestion.

Mathieu (*La Presse Med.*) thinks that ipecac is one of the best remedies to excite the stomach when the motor action is feeble. He prescribes it in minute doses. Following are two of his favorite prescriptions:

℞. Tinct. ipecac.....3i
Tinct. calumbæ
Tinct. gentianæ, āā.....3iii
M. Sig. Take 5 to 10 drops in a little water after eating, and repeat the dose in a half hour, and again in an hour.

℞. Tinct. ipecac
Saccharin.....gr. i
Menthol.....gr. iiss.
Alcohol (80 per cent.).....℥viss.
Syrupi simplicis.....℥iiss.
M. Sig. Two to four teaspoonfuls in divided doses after eating.

Local Applications of Tuberculin in Lupus.

Unna has been applying tuberculin in a soap rubbed into lupus lesions and announces that it produces the valuable characteristic local reaction without any of the inconvenient

general effect. This treatment does not cure, but it constitutes a preliminary which arrests the progress of the lesions and renders them more amenable to the usual methods of treatment. The soap is made by the incomplete saponification of lard with caustic potash, with which 5 to 20 per cent. tuberculin is incorporated. The application is absolutely harmless. —*Semaine Med.*, October 11.

Treatment of Pernicious Malarial Fevers.

Mousseos writes from Asia Minor to the Paris Academy of Medicine that he has found subcutaneous injections of quinin most effective in all cases of pernicious fever except the hemoglobinuric form and in cases of extreme prostration or collapse he supplements it with two to three hundred grams of artificial serum, responding to the urgent necessity of re-establishing the capillary circulation, as in cholera. He has found that hemoglobinuria is extremely rare if French quinin is used and that the hemoglobinuria produced by quinin is only transient and never an actual hemoglobinuric bilious fever, which he treats with methylene blue: .5 to 1 gram, per os. This medication has also frequently been successful in his experience in simple malarial fevers.

Mercurial Ointment in Pustula Maligna.

G. B. Reina states in a communication to the *Gazzetta degli Ospedale* of October 15, that he has been very successful in curing forty cases of pustula maligna with mercurial ointment alone, with no disfiguring scar such as follows cauterization.

Treatment of Pneumonia.

In cases of uncomplicated pneumonia recovery may occur without any treatment whatever, yet it is necessary to place the patient under the most favorable hygienic surroundings. Concerning diet, a quart of milk or broth taken every twenty-four hours is amply sufficient, but he may be allowed a small quantity of fruit, and liberal amounts of water as thirst demands.

Elimination should be promoted as rapidly as possible by means of cathartics, diuretics and diaphoretics.

A thick cotton jacket should be applied to the whole trunk, maintaining it firmly in place and covering it with oiled silk. This should remain on during the entire course of the disease save when an occasional examination of the chest is imperative.

The vascular excitement and congestion of the first stage may be allayed by the following:

℞. Tinct. aconiti.....m. viii
Spiritus etheris nitrosi.....3v
Tinct. opii camph.....3iii
Liq. ammon. acetatis, q.s., ad.....℥iv
M. Sig. Dessertspoonful in water every hour.

The pleuritic pain attending pneumonia is so distressing at times that it may be necessary to resort to opiates, preferably morphin and atropin or coniin hydrobromate 1/12 to ½ gr. hypodermically. Should insomnia, delirium and marked nervous symptoms manifest themselves, trional, paraldehyde, or hyoscin may be given.

Should the temperature be persistently high—104 or 105—hydropathy is indicated. It matters little how the cold water be applied, only let it be applied—either by sponging, cold applications, rubbing with ice, or ice coil.

Medicinal antipyretics, as such, are to be disparaged, though, of course, they may be used as a specific in complicated conditions—as, for example, quinin in complicated malaria, or salicylates in rheumatism, but even here with caution.

One of the chief indications, however, in the treatment of pneumonia is to support the heart, which, if inclined to be feeble, with low arterial tension, is best done by digitalis given in full doses. Strychnin, however, is more uniformly valuable, and to obtain the best results it should be given with a free hand, especially in very severe cases, preferably by hypodermic injection.

No specific dose can be prescribed, but the administration should be pushed to the extreme limit of safety. The dose of strychnin, however, must be regulated by the action of the heart. Doses varying from 1/32 gr., three or four times a day to 1/15 gr. every two hours have been given. We believe that alcohol is an unsafe drug in this disease, save in great emergencies that call for the use of a powerful diffusible stimulant, to compel the heart to increased action in order to tide the patient over a critical period. For this purpose the following is useful:

℞. Spiritus frumenti.....3iv-℥i
Spiritus ammon, aromat.....3i
Spiritus camphoræ.....m. xv
Spiritus etheris comp.....m. xv
M. Sig. Give at one dose in water, and repeat in thirty minutes if necessary.

In desperate cases, when the patient is cyanotic and struggling for breath, the inhalation of oxygen is invaluable.

For cough, drugs are indicated which serve to lessen the viscidity of the expectoration—such as the ammonium preparations, preferably the carbonate—and as a sedative expectorant, cannabis indica may be employed in preference to opium.

Prescriptions like the following, or modifications of them, may be used advantageously:

℞. Ammonii carbonatis.....3i
Ext. cannabis indicæ fluidi.....m. xlv
Syrupi senegæ.....3iv
Syrupi glycyrrhizæ, q.s., ad.....℥ii
M. Sig. Teaspoonful every two or three hours.

℞. Ammonii chloridi.....3i
Spiritus etheris nitrosi.....3ii
Syrupi ipecacuanhæ.....3iv
Liq. ammon acetatis.....℥ii
Syrupi pruni virg., q.s., ad.....℥iv
M. Sig. Dessertspoonful in water every two hours.

The following prescriptions have been recommended in different stages of the disease. C. J. MacGuire recommends:

℞. Liq. ammon. acetatis.....℥i
Tinct. opii camph.....3vi
Spir. etheris nitrosi.....3iv
Aquæ laurocerasi.....℥ss
Syr. tolutani.....℥ss
Aquæ camphoræ, q.s., ad.....℥iv
M. Sig. Dessertspoonful every two hours in water.

In the clearing-up stages:

℞. Eucalyptol.....m. xlv
Ammonii iodid.....3iiss
Vini picis liq.
Syrupi tolutani, āā.....℥i
M. Sig. One teaspoonful in water every three to four hours.

Caution—Avoid ammonium iodid if phthisis be developing.—*Tuffs.*

℞. Caffeinæ iodosalicylatis.....3ss
Ammonii carbonatis.....3iss
Elix. simplicis, q.s., ad.....℥iii
M. Sig. Teaspoonful every three hours.

—*Lorenze.*

To establish free secretion of all organs of the system:

℞. Tinct. aconiti
Tinct. bryoniæ, āā.....gtt. x
Tinct. digitalis.....3i
Potassii nitratis.....3ss
Ext. ipecac fluidi.....gtt. x
Syr. pruni virginianæ, q.s., ad.....℥iv
M. Sig. For adults, teaspoonful diluted every hour until patient is better; then only as seems to be required, say every three hours while fever lasts.—*Vandoren.*

For hypodermic injection:

℞. Sodii benzoatis.....gr. xxiv
Caffeinæ (Merck).....gr. xxxvi
Aquæ destil.....3iss
Dose fifteen minims.

Dissolve with heat, and warm the bottle before injecting.—*Adolph Zeh.*

As a heart tonic, especially in asthenic cases:

℞. Strychninæ.....gr. 1/3
Pulv. camphoræ.....3i
Sacchari lactis.....gr. xx
M. et ft. capsule No. xii. Sig. One every four or six hours.

The camphor increases the action of the right heart and lessens the tendency to delirium.—*E. G. Tuffs.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

University Medical Magazine (Philadelphia), November.

1.— Complicated Cataract. S. D. Risley.
2.—*Clinical Notes from Gynecological Service of Howard Hospital. B. C. Hirst.
3.—*Simple Palliative Operation Applicable to Obstructing Cancer of Pylorus too Extensive for Complete Removal. Edward Martin.
4.— Acute Cholecystitis. A. C. Wood.
5.—*Sun Fever, A Hitherto Unreported Tropical Malady. W. H. Bell.
6.— American Physician as a Prescriber of Medicine. Emil King.
7.— Pyloroplasty for Cicatricial Contractions; Recovery. J. W. White.

American Journal of Insanity, October.

8.—*Presidential Address: The Teaching of Psychiatry. Henry M. Hurd.
9.—*Remarks on Mental Contagion and Infection, Inherited or Acquired; with consideration of Some Measures of Prevention of Insanity and Degeneracy. Richard Dewey.
10.— Judicial Errors in Lunacy. Geo. Villeneuve and E. P. Chagnon.
11.—*Thyroid Extract: Review of Results Obtained in Treatment of 1032 Collected Cases of Insanity. Wm. Mabon and W. L. Babcock.
12.—*Relations of Renal Disease to Mental Derangement. W. L. Worcester.
13.— Imagination in Relation to Renal Disease. Robert H. Chase.
14.— Some Inconsistencies, Legal and Medical, about Insanity. J. T. Searcy
15.—*Practical Value of Prophylaxis in Mental Disease. A. B. Richardson.
16.— Psychology of Criminals, and a Plea for Elevation of Medical Service in Prisons. J. B. Chapin.
17.—*Hematoporphyrinuria, with Report of Case Following Use of Trional. Robert E. Ruedy.

Clinical Review (Chicago), November.

18.— Diseases of Kidney, Amenable to Surgical Treatment. Christian Fenger.
19.— Acute Anterior Poliomyelitis of Adult; Acute Anterior Spinal Paralysis and Acute Polyneuritis. H. M. Lyman.
20.— Lectures on Gunshot Wounds. C. B. Nancrede.
21.— Some Unusual Cases in Gynecology. C. W. Oviatt.

Archives of Pediatrics (N. Y.), November.

22.—*Some Clinical Features of Rheumatoid Arthritis. R. T. Taylor and S. H. McKim.
23.—*Case of Meningitis Due to Typhoid Bacillus. A. H. Wentworth.
24.—*Vaccinoid. F Forchheimer.
25.—*Incontinence of Urine in Children. Francis Huber.
26.— New Binaural Stethoscope for Examination of Infants and Children. Henry Koplik.
27.— Scurvy in an Infant of Six Weeks. Floyd M. Crandall.
28.— Position of Antenatal Pathology. J. W. Ballantyne.
29.— Case of Acute Iodoform Poisoning. B. B. Mosher.
30.— Subnormal Temperature during an Attack of Malaria. Charles G. Lucas.
31.— Rheumatism in Young Infants. Ewing Marshall.

St. Louis Clinique, November.

32.— Ectopic Gestation, Rupture of Right Tube and Uterus—Abdominal Hysterectomy with Recovery. M. E. Titterington.

Journal of Nervous and Mental Diseases (N. Y.), November.

33.—*Rigidity of the Spinal Column. Philip Zenner.
34.— Alveolar Sarcoma of Right Middle Fossa of Skull. Morris J. Lewis.
35.— Case of Internal Hemorrhagic Pachymeningitis in Child of 9 Years, with Changes in Nerve-Cells. Wm. G. Spiller and D. J. McCarthy
36.— Sensory Disturbances in Epilepsy and Hysteria. E. D. Fisher.
37.— Purulent Encephalitis and Cerebral Abscess in the New-Born, Resulting from Infection Through the Umbilicus. Guy Hinsdale.

Denver Medical Times, November.

38.—*Estimation of Corpuscular Richness of Blood: New Hematokrit and New Technic. Judson Daland.
39.— Points in Autointoxication and Blood Morphology, to be Considered in Preparation of Patient for Surgical Operation. P. D. Keogh.
40.—*Use of Suprarenal Capsule Extract in Surgery of Ear, Nose and Throat. W. W. Bulette.
41.— General and Local Infection of Bacterium Coli, With Report of Cases. J. N. Hall.
42.—*Treatment of Chorea. S. D. Hopkins.
43.— Report of Case of Appendicitis. Hough and Hosmer.
44.—*A Study of Salophen. Edward C. Hill.

New England Medical Monthly (Danbury, Conn.), November.

45.— Cystitis, the Cause of Diseases of the Urinary Organs and Emunctories due, Possibly More Often Than is Generally Realized, to Presence of Uric Acid in the Urine. W. H. Vail.
46.— Case of Tetanus Successfully Treated with Antitetanic Serum. P. A. Hilbert.
47.—*Association of Hysteria with Organic Disease of the Nervous System. Philip Zenner.
48.— Beta-Eucain as a Local Anesthetic. George G. Hamilton.
49.— Non-Operative Treatment of Appendicitis. T. J. Shuell.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), November.

50.— Some Cases of Bilateral and Linear Nevus, Sometimes Called "Nevus Unius Lateris." Isadore Dyer.
51.—*Treatment of Scabies. S. Sherwell.

Medical Standard (Chicago), November.

52.— Address in Medicine: Typhoid Fever. J. A. Witherspoon.
53.—*Gall-Stones, with Report of Cases. I. B. Perkins.
54.—*Management of Labor in Abnormal Pelves. C. K. Fleming.
55.— Case of Strangulated Hernia Through an Omental Slit. W. L. Brown.

Medical Bulletin (Philadelphia), November.

56.— Introductory Address Delivered at Medico-Chirurgical College. C. W. Burr.
57.— Tinea Capitis; Psoriasis. J. V. Shoemaker.
58.—*Menstruation Following Supravaginal Hysterectomy. W. E. Ashton.
59.— Heroin. Isaac Ott.

Medical Council (Philadelphia), November.

60.— The Eye: How It Sees, Its Defects and Their Cure with Glasses A. H. P. Leuf.
61.— Vicarious Menstruation. Benj. Edson.
62.— Carbolic Injections in Cellulitis and Other Conditions. E. L. Paulding
63.—*Treatment of Inebriety. T. D. Crothers.
64.— Uranalysis and Nephritis. Irvin Lindenberger.
65.— Thiosinamin. A. W. Smith.
66.— Treatment of Diseases of Nose, Throat and Ear by the Family Physician. Nasal Hemorrhage. E. B. Gleason.

National Medical Review (Washington, D. C.), November.

67.— Four Cases of Appendicitis. W. C. Borden.

Pacific Medical Journal (San Francisco), November.

68.—*Use of Dry, Hot Air in Treatment of Rheumatism and Rheumatic Pains. E. Calderon.
69.— My Conversion from Conservatism to Early Surgical Interference in Appendicitis. Maj. A. C. Girard.
70.— Pharmacy, the Handmaid of Medicine. W. J. Jackson.
71.—*Some Observations on Periodical Dipsomania and Some of Its Remote Causes. P. C. Remondino.
72.— Hernia Following Abdominal Operations; Its Prevention and Cure. A. Lapthorn Smith.

Yale Medical Journal (New Haven, Conn.), November.

73.—*An Unusually Complicated Case. Paul F. Mundé.
74.—*Medical Shock or "Heart Failure." O. T. Osborne.
75.—*Contribution to Relation of Pancreatitis to General Surgery. W. H. Carmalt.
76.— Treatment of Phimosis. L. W. Bacon, Jr.

Louisville Monthly Journal of Medicine and Surgery, November.

77.— Significance of Obstinate Constipation as a Symptom. J. G Sherrill.
78.—*Some Remarks on Coley's Treatment of Malignant Growths. F. T. Merriwether.
79.— Amenorrhea. Edward Speidel.
80.— Fistula in Ano. Bernard Asman.
81.— Coincidence of Malaria to Mosquito Life: Suggestive Treatment of Malaria: New Stains for Plasmodium. L. H. Warner.

North Carolina Medical Journal (Charlotte) November, 5.

82.— Cerebrospinal Meningitis. Joseph W. Irwin.
83.— Treatment of Acute Dyspeptic Diarrhea. Robt. C. Kenner.

Columbus Medical Journal, October 20.

84.—*Treatment and Feeding of Typhoid Fever. E. F. Wilson.
85.—*Intolerant Ulcerations of the Rectum. S. B. Taylor.
86.—*Anesthesia. W. B. Patton.

Medical Fortnightly (St. Louis, Mo.), November 1.

87.— Medical Missions; What Form of Medical Missionary Work Produces Best Evangelistic Results; viz: Itinerating, Dispensary or Hospital? H. T. Whitney.
88.—*Association of Hysteria with Organic Disease of Nervous System. Philip Zenner.
89.— Notes from Surgical Section of Mississippi Valley Medical Association. Carl E. Black.
90.— Degenerate Hybridism; The Anglo-Saxon Eurasian. A. S. Ashmead.

Virginia Medical Semi-Monthly (Richmond), October 27.

91.— Needed Legislation with Reference to Non-Graduates Before Medical Examining Boards, etc. Jacob Michaux.
92.— The Ideal Physician. Livius Lankford.
93.— Syphilis and Life Insurance. Allen H. Kelch.
94.— Prevention of Smallpox. T. M. Baird.
95.—*Therapy of Nitrites. J. N. Upshur.
96.— Case of Septicemia: Treatment. B. J. A. McDonald.
97.— The New and the Old. Raley H. Bell.
98.—*Further Observations on Treatment of Abdominal Viscera Through Colon. F. B. Turck.
99.—*Modern Surgical Treatment of Hemorrhoids. G. M. Blech.

Medical News (N. Y.), November 18.

100.—*Treatment of Gonorrhea in the Female. A. Ravogli.
101.—*Experimental Study of Aspirin, a New Salicylic-Acid Preparation. F. C. Floeckinger.
102.—*Some Cases Bearing on Peripheral Causation of Epilepsy. Frank H. Edsall.
103.— Raynaud's Disease; with Report of Case Resulting in Death. William H. Dukeman.

New York Medical Journal, November 18.

104.—*Interesting Case of Syphilitic Leucoderma, or Dungeon Scurvy, Closely Simulating Anesthetic Macular Leprosy. Joseph A. Silverman.
105.—*An Unusual Accident. Ewing Marshall.
106.— Further Experimental Researches on Effects of Different Anesthetics on the Kidneys. Robert Coleman Kemp.
107.—*Relation of Pathologic Conditions in the Ethmoid Region of the Nose and Asthma. Treatment. F. H. Bosworth.
108.—*Sheldon Murder Trial. A Review of Medical Evidence Relating to Pistol-Shot Wounds of the Head. Charles Phelps.

Medical Record (N. Y.), November 18.

109.—*Tabes Dorsalis: Its Pathology, Diagnosis and Treatment. Charles L. Dana.
110.—*Pathogenesis of Functional Nervous Diseases and Their Prophylactic Indication. John Punton.
111.—*Ophthalmic Contributions. David Webster.
112.—*Necessity for State Aid in Pulmonary Tuberculosis. George W. Goler.

Boston Medical and Surgical Journal, November 16.

113.—*An Object Lesson in Military Sanitation. Chas. R. Greenleaf.
114.—*Tentage for Tropical Service. Edward L. Munson.
115.—*Treatment of Post-Partum Hemorrhage. J. Z. Currie.
116.—*Value of Urotropin in Treatment of Certain Forms of Genito-Urinary Diseases. J. M. Thompson.
117.— Acute Hemorrhagic Gangrenous Pancreatitis; Operation on Second and Twenty-eighth Days; Death. Chas. L. Scudder.
118.— A Case which Baffled Diagnosis. Benj. R. Symonds.

Maryland Medical Journal (Baltimore), November 18.

119.— Diagnosis of Eye Diseases by External Examinations. Hiram Woods, Jr.

Medical Review (St. Louis, Mo.), November 18.

120.— Some Interesting Genito-Urinary Specimens. Bransford Lewis.
121.— Some Points in the Anatomy, Physiology and Pathology of the Fore-Brain. Arthur E. Mink.

Cincinnati Lancet-Clinic, November 18.

122.—*Rupture of the Hydronephrotic Kidney. J. C. Sexton.
123.— The Gall-Bladder. D. E. Spahr.

Philadelphia Medical Journal, November 18.

124.—*Remarks on Present Mild Type of Smallpox; Symptoms and Diagnosis. Wm. M. Welch.
125.—*Report of Holguin Epidemic of Smallpox, with Brief History of Its Inception, Progress and Methods of Control. Epidemiologic Deductions of 1200 Cases Isolated. R. S. Woodson.
126.— Pathogenesis of Appendicitis. Aloysius O. J. Kelly.
127.—*Pathology and Therapy of Cancer, with Special Reference to Cancer of Stomach. A. C. Bernays.
128.—*Unusual Case of Acute Rheumatic Fever. Julius L. Salinger.
129.— Pneumonia Following a Case of Sporadic Cerebrospinal Meningitis. Frank H. Murdock.

AMERICAN.

2. **Gynecology Notes.**—Hirst reports a case of congenital absence of the vagina, surgically supplied; rectovulvar fistula, probably due to violent coitus; ovarian cyst, infected and inflamed, removed in the puerperium; fibromyoma of uterus simulating ovarian cyst, and tubal gestation, retained for seven months.

3. **Cancer of the Pylorus.**—Martin reports a case of pyloric cancer in which he performed the following operation as a palliative measure. The cancer involved the greater and lesser omentums and post-perineal glands. The operation was the introduction of a rubber tube of the caliber of a No. 40 French sound, which was laid on the surface of the first part of the duodenum and six interrupted catgut sutures so placed that by drawing them tight the portion of the tube in contact with the bowel was completely covered by a plication of the wall drawn up on each side. Between the fifth and sixth sutures a slit was made through the bowel wall, and through this slit six inches of the tube was passed downward. The sutures were then tied, thus forming a long oblique channel not likely to permit leakage of the intestinal contents. The tube was fastened to the gut by a catgut suture passed through its wall. The peritoneum of the bowels at the point where the tube emerged from the channel made for it was sutured to the parietal peritoneum and the wound was closed. Healing was prompt and uninterrupted. The patient has since been fed through this tube at regular intervals, with digested food, and has steadily gained in flesh and strength. He has been largely relieved of his vomiting, and has had much relief from his exhausting pain. The author thinks that the following conclusions are warranted in such cases of inoperable pyloric cancer: 1. When cancer has invaded the stomach, its course is hastened, and the pain it causes is increased by the congestion and motion inseparable from gastric digestion. Moreover, the contact of the ingesta and of the gastric juice acts as direct irritants to ulcerating surfaces, and adds to exhaustion and anemia by encouraging hemorrhage. 2. The palliative treatment of gastric cancer has for its end the relief of pain and vomiting, and the prolongation of life. 3. This is best attained by excluding the stomach from the digestive process. A common cause of death in obstructive pyloric cancer is starvation due to the failure of the gastric contents to reach the intestine. This may be remedied somewhat uncertainly by gastroenterostomy, but even if this operation attain such an end, the stomach is still subject to the constantly recurring congestion of digestion. 4. Since the chemical and mechanical changes wrought on food by the stomach can be perfectly imitated without the body, there is every reason to believe, and clinical evidence to prove, that when food thus prepared is introduced into the upper bowel the functions of the stomach can be dispensed with entirely without harm to the patient. 5. Food thus prepared can be introduced through an artificial opening made into the duodenum. This opening can be made easily, bloodlessly, and rapidly, and hence with less shock than can any form of communication between the stomach and bowel. 6. To prevent leakage, unless there is need of great haste, this is best made as in Witzel's method of gastrostomy, i. e., by folding a tube in the wall of the bowel, Lembert sutures being used for this purpose. At the bottom of the tunnel thus formed the tube is passed through a slit into the bowel lumen. 7. In obstructing pyloric carcinoma of the stomach, duodenostomy is always to be preferred to gastroenterostomy. Even in cancer of the fundus beyond the reach of a radical cure duodenostomy will probably relieve pain and hemorrhage and delay the course of the infiltration. 8. After duodenostomy, unirritating antiseptic and analgesic lavage of the stomach should form a part of the palliative treatment. 9. This operation is also indicated in intractable ulcer of the stomach.

5. **Sun Fever.**—Bell describes what he considers a hitherto unreported tropical disease, which consists in a sort of rapid febrile attack with swelling of the face, edema of the conjunctiva, impaired vision and some photophobia. The fever reaches its height at 102 or 103, on the second day, with soreness and dull aching of the back and legs and the digestive functions in an atonic condition. There is loss of appetite, and considerable tympanitis with gaseous eructations. The tongue is slightly furred, the urine negative. The duration of the trouble is about six or seven days, and marked exhaustion follows. The treatment is conducted on the general principles of all non-specific fevers; rest, darkened quarters, local lotions for the swelling, and antipyretics, stomachics and nerve sedatives. Later some tonic treatment should be given, continued for some time during convalescence. He does not consider the affection serious.

8.—See abstract in JOURNAL, June 10, p. 1325.

9.—Ibid.

11. **Thyroid Extract.**—Thyroid extract and its therapeutic use in insanity is taken up by Mabon and Babcock, who have gathered statistics in various hospitals, which, as well as the hitherto published reports, are here analyzed. They also give a tabulated statement of sixty-one cases treated with thyroid extract in the St. Lawrence State Hospital, under their care, together with blood examinations in a number of cases. Their conclusions are: 1. The dose of the extract depends entirely on the individual case. In some, 25 gr. three times a day will be necessary to bring about a circulatory or temperature reaction; while in others the same results may be had with the use of 5 gr. t. i. d. Each case must be a law unto itself. 2. It is essential that the patient should be placed in bed to obtain the best results, and he should be continued there during the entire treatment and for a week following its discontinuance. 3. The treatment should be continued for at least thirty days. 4. We should not be discouraged by failure in the first administration, but should resort to two, three, or more trials, if necessary. 5. The most gratifying results in thyroid treatment are to be obtained in cases of acute mania and melancholia with prolonged attacks, puerperal and climacteric insanities, stuporous states and primary dementia, particularly where these forms of mental alienation do not respond to the usual methods of treatment. 6. A high temperature-reaction is not essential, as the average maximum temperature in the recovered cases among men was 99.6 degrees. 7. Physical improvement is the outcome in most cases, whether mental improvement takes place or not. 8. The proportion of individuals to recover under thyroid treatment and then relapse is less than the proportion who relapse after recovery from other methods of treatment. In their series of cases, only one patient who recovered has relapsed.

12. **Renal Disease and Insanity.**—Worcester reports an analysis of a study of the relation of renal and mental disease made, by him, largely in the Danvers Hospital for the In-

sane. The conclusions to which he has been provisionally led are: Renal disease in some degree is very common among the insane, but it is by no means certain that it is very much more common among them than in the population at large at corresponding ages. Cases in which insanity is due simply to disease of the kidneys are rather infrequent in hospitals for the insane. Taking the term "Bright's disease" in its broadest significance, however, it is probably one of the most common causes, if not the most common, of mental derangement.

15.—See abstract in JOURNAL, June 10, p. 1325.

17. **Hematoporphyrinuria.**—A case is here reported of this condition following the use of trional, and the literature of the subject is discussed by Ruedy. He concludes with the following: 1. Hematoporphyrinuria occurs occasionally in a number of different pathologic conditions, and even physiologically; more frequently in hemorrhages into the alimentary canal and in lead-poisoning; and, finally, after the use of sulphonal and applied substances. 2. As a diagnostic and prognostic sign it is of little value, except in connection with sulphonal poisoning, where it becomes of very grave prognostic import, especially in women. 3. Its origin is obscure, may not always be the same, and in sulphonal intoxication seems to be associated with a badly damaged renal epithelium, probably of a secondary nature. 4. It is a condition that is more easily prevented than cured.

22. **Rheumatoid Arthritis.**—Taylor and McKim describe, with skiagraphic illustrations, a case of rheumatoid arthritis in a child aged 8, and discuss the diagnosis and distinctions between it and other conditions, especially arthritis deformans and the partial or monoarticular form.

23. **Meningitis from Typhoid Bacilli.**—Wentworth reports a case of meningitis with fatal termination, in which Eberth's bacillus was found in the cerebrospinal fluid obtained by lumbar puncture before death. He remarks on the limited number of cases previously reported, and gives a bibliography of those where more or less extensive bacteriologic examinations were made.

24. **Vaccinoid.**—Forchheimer describes the condition which has been called false or spurious vaccinia, and which he believes is always a modified form of vaccinia. He holds that it protects against variola, though less perfectly than normal vaccination. Its occurrence is usually due to faulty methods, rarely to increased immunity, and when it occurs in primary vaccination, the latter should be repeated until true vaccination is produced or positive evidence of immunity exists. When an epidemic of variola exists, the occurrence of vaccinoid, either in primary vaccination or in revaccination, should be followed by the latter.

25. **Incontinence of Urine**—Huber discusses this condition and shows that it is met with in many varied states, but there is one common factor in all cases, viz.: a neurotic constitution or family history. In all cases careful search should be made for a possible cause, such as small meatus, preputial adhesions and inflammation, constipation, pin worms, etc. He also mentions the cases occurring in children suffering from adenoids, and thinks a careful study of this phase of the subject is desirable. In a large proportion, if the cause can be discovered the chances of cure are good. The treatment must depend largely on the cause, and when this can not be discovered general tonic measures, encouragement of good habits and prevention of bad ones. Belladonna and strychnin are sometimes valuable. Fluids should be restricted, particularly in the evening, and a light early supper given, the bowels and bladder evacuated before going to bed, a full dose of tincture of belladonna given at bedtime, a tonic of strychnin and iron three times daily for some time, on general principles, and the child may be called once or twice in the night to pass urine. His paper ends with a tabulated statement of the causes of this condition.

33. **Rigidity of Spinal Column.**—Three cases of this condition, first described by Bechterew in 1893, and characterized by rigidity and curvature of the spine, are described by Zenner, who also gives quite a thorough discussion of the literature of the disorder. The common feature in all the cases was rigidity of either a large portion or the whole of the spinal column, involving the costo-vertebral joints in most, as shown by abdominal breathing. The curve is also a common feature, though absent in three cases reported by Strumpell, Baumler and Koehler. Spinal root symptoms were not marked, and in general pain was very moderate or slight. In Zenner's first two cases the trouble appeared to be primarily muscular, and he suggests that if muscular contraction be the primary condition in these, it is not improbable that the bony ankylosis subsequently occurs, either like that occurring in lateral curvature or from a resulting inflammation in the vertebræ or intervertebral discs.

38.—See abstract in JOURNAL, August 12, p. 413.

40. **Suprarenal Capsule Extract.**—Bulette reports his experience with the extract of suprarenal capsule in ear, nose and throat surgery. He finds that it is one of the most valuable products that has been offered to the profession in recent years, and he has never seen any unpleasant systemic effects from its use, but, on the other hand, has noticed fewer cases of cocain toxemia than formerly, though cocain is used with it. The preparation should always be freshly prepared with boiling distilled water or hot saturated solution of boric acid, adding 5 to 10 gr. of the extract to the dram, stirred for five minutes and filtered. It can then be applied with a spray or a saturated pledget, and in five or ten minutes the tissues become almost bleached.

42. **Treatment of Chorea.**—The treatment of chorea in children, suggested by Hopkins, consists in the use of antipyrin in connection with the ordinary arsenic and iron treatment. The patient, to begin with, receives as many grains of antipyrin at bed-time as he is years old, and the dose is increased every night until the twitching stops. At the beginning of the treatment he commences with one drop of Fowler's solution, diluted, after each meal, and increases the dose one drop each day until the point of tolerance is reached, then it is discontinued for two or three days until the unpleasant symptoms have subsided, then repeated as before. As soon as the twitching stops, the antipyrin at bed-time is discontinued and syrup of iodid of iron in three to ten drop doses, according to age, is given after each meal. Absolute rest in bed is insisted on. If the patient has cardiac dilatation or valvular disease, antipyrin is not used, but phenacetin may be, and when fever is present he uses choral in moderate doses. He reports six cases.

44. **Salophen.**—According to Hill: "A careful and impartial summary of all the clinical evidence proves indisputably that up to the present this remedy is our best, safest and most eligible antirheumatic, and that it is also an efficient antineuralgic and intestinal antiseptic." He has used the drug in several hundred cases and almost always with benefit and no untoward symptoms. He reports ten cases briefly.

47.—See abstract in JOURNAL, October 28, ¶ 169, p. 1088. This paper is also printed elsewhere: see title 88, p. 1347.

51. **Treatment of Scabies.**—The ordinarily recommended treatment of scabies with ointments is condemned by Sherwell, who treats the disorder, first by a bath followed, except in infants, with sapolio lightly used, and then light rubbing of the body and limbs with sulphur lotion. Half a teaspoonful is too much, and no excess in friction is required. The bed linen and underclothing is changed and powdered sulphur disseminated over the former. By repeating the powdering of the bed every other or third night, and the bathing, and changing clothing in the same way at about the same intervals for a week, a cure is ordinarily effected. Any mild perfume will suffice to cover the odor.

53.—See abstract in JOURNAL, August 19, p. 481.

54.—Ibid, August 12, p. 414.

58. **Menstruation Following Hysterectomy.**—Ashton reports a case in which, after a primary ovariotomy for cancerous ovaries, which did not relieve pain nor prevent menstruation, a supravaginal hysterectomy was performed, with uninterrupted recovery. Menstruation has not been absent except for two months after the operation. The blood must come from the cervical canal as the uterus was removed close to the vaginal junction and the upper portion closed with peritoneum. After the ovariotomy it became more frequent, occurring every two weeks, and since the later operation it has been regular every four or five weeks, at first lasting three to four days, but latterly rather less.

63. **Inebriety.**—The theory that inebriety is a disease is, as is well known, maintained by Crothers, who gives here his views as regards its causation and proper treatment, and reports several cases. His ideas on the subject are summarized in the following propositions: 1. Alcohol is becoming more and more prominent as a recognized factor in the causation of disease, and in the prognosis and treatment. 2. The disease of inebriety has become so well established, that its practical recognition and treatment by the family physician should follow in all cases. 3. The inebriate is literally both poisoned and starved, and common sense principles should apply. There is no mystery and no doubt of results, if the means are used. 4. The possibility of cure is established by facts beyond question. The obstacles are, failure of early recognition and the use of unsuitable, quackish means. 5. The gold and other cures are only the application of common remedies, which every physician should use with greater success. 6. Every case can be restored, and many permanently cured, by the intelligent co-operation of the family and asylum physicians. Both home and asylum treatment are found invaluable in most instances. 7. The successful cure and prevention of inebriety is a medical problem, the solution of which will open up a new field of practice that promises as great possibilities as any other department of medicine.

68. **Dry Hot Air in Rheumatism.**—Calderon eulogizes the hot-air treatment for rheumatism and rheumatic pains, and reports four cases in which he has employed the Betz apparatus for this purpose with success. The higher the temperature he finds the better are the results, and he gives directions as to the methods of treatment.

71. **Dipsomania.**—Remondino describes the condition of dipsomania, and gives some remarkable cases of causation from various sources. He has found that in one of his own patients it alternated with or was displaced by gouty rheumatism, the dipsomania itself having been the successor of migraine attacks, and in another case the intervention of bleeding hemorrhoids cured the disease. He maintains that the condition has the same basis as these disorders: gout, rheumatism, etc., and that liquor, instead of being the prime cause is only a secondary consideration.

73. **A Complicated Case.**—The case reported by Mundé is one of ruptured ectopic pregnancy, correctly diagnosed but complicated with nephrolithiasis, with stone impacted in the ureter, pyelonephritis and cholelithiasis. Three laparotomies were performed, also colpo-ureterotomy and nephrectomy before the patient finally succumbed.

74. **Heart Failure.**—Osborne pleads for the use of the term "medical shock" for heart failure, maintaining that it is the counterpart of surgical shock, which no one questions. It is primarily a vasomotor paralysis with a congestion of the greater part of the blood in the abdominal veins. The treatment should be on the same general lines as that of surgical shock: hypodermic medication with cardiac and vasomotor remedies, nutrient enemata, high rectal injections of hot water, saline transfusion, etc. He thinks that in many cases, notwithstanding care in diagnosis, we may be at a loss for a better term for cause of death than medical shock.

75. **Pancreatitis.**—Carmalt calls attention to a condition of abdominal disease simulating intestinal obstruction or advanced appendicitis, but which on laparotomy proved to be an entirely different state of affairs, viz.: disease of the pancreas. The cases he reports were those of suppurative pancreatitis, but he discusses all the forms of inflammation of the organ, the hemorrhagic, and the gangrenous. In all, disseminated fat necrosis is characteristic. Two cases of successful operation for diagnosed suppurative pancreatitis have been reported, and others in which the diagnosis was not made until after the operation. Hemorrhagic pancreatitis has a less favorable record, only one case of success having been reported. The gangrenous form has likewise a bad record. It is to be hoped that with better knowledge of the condition, and consequent more accurate diagnosis, better results may be had in future.

78. **Coley's Treatment for Malignant Growths.**—Meriwether reports four cases of malignant disease treated with Coley's serum, three of them sarcoma and one adenoma carcinoma. In one case of sarcoma he had apparent success. In the other cases he thinks that if the treatment could have been persisted in, at least benefit would have been derived, though the carcinoma could hardly be expected to give a very favorable result.

84. **Typhoid Fever: Treatment and Feeding.**—The treatment of typhoid fever is divided into two parts, hygienic and medical. As regards the former, Wilson insists on close confinement to bed, thorough sponging twice a day, cleansing of the mouth and teeth and general absolute cleanliness, disinfection of the clothes, stools and urine, allowing no food nor water to be used after standing in the sick-room, but allowing the patient all the water desired, and in the comatose condition giving it freely. He differs from the majority as regards feeding, in most cases giving soft food rather than liquid, and when convalescence sets in, finely chopped tender meat. When there is much trouble with the bowels, and excessive tympanitis, he does confine the diet to milk, given carefully and generally predigested. The medical treatment must be individual. He uses intestinal antiseptics, cleansing the bowels by laxatives or mild purges, and using enemas of ice water when the temperature goes above 102.5 F. For diarrhea, bismuth subnitrate has served him well. In cases of perforation or hemorrhage, morphin is the only drug he has found useful, and he thinks that many cases of perforation will recover without operation with its free use. In the third week of the fever, if the tongue becomes distressingly dry, two drops of Fowler's solution every three hours will act like magic in relieving the symptoms. He advises against using nauseating fever mixtures, coal-tar derivatives, diuretics and large doses of quinin. As for results, he can report one series of 96 cases with 2 deaths, and a second series under the same treatment, of 45 cases with no deaths, these including all cases treated during the past eight years.

85.—See abstract in JOURNAL, October 14, p. 977.

86. **Anesthesia.**—Patton insists on the importance of the proper administration of anesthesia, maintaining that it demands no less skill on the part of the one who administers it than the operation itself. He claims that natural fitness as well as experience is required to become a successful anesthetizer.

88.—See above, ¶ 47.

95. **Therapy of the Nitrites.**—The therapeutic actions of nitrite of amyl and nitroglycerin are here described by Upshur. After noticing their physiologic action, antagonists, etc., he remarks on use of nitroglycerin in epilepsy, its effect in cutting short the cold state of intermittent fever and in some forms of neuralgia, its antidotal action to strychnin and its value in reflex vomiting in some cases of gastralgia and in angina pectoris. He also speaks of the use of nitrite of amyl in relieving the muscular spasms of neuralgic dysmenorrhea, and suggests that nitroglycerin may be useful in overcoming the spasms of hour-glass uterine contractions, especially when due to improper use of ergot. We also have in it a potent remedy for spasms of renal and hepatic colic and of the stomach and bowels. He has also seen marked relief from the use of nitroglycerin in acute Bright's disease. The contraindication is, most prominently, high temperature. No agent, he says, can be safely administered to sustain heart action and avert death from heart failure whose physiologic action is known to be first, depression of the medullary center, consequent threatened paralysis of respiration and markedly paralysis of the muscular system. It must be remembered that the frequent and continued use of these remedies produces tolerance, and also that there are marked idiosyncrasies toward them in individuals. Nitroglycerin is the one agent that acts more promptly by the mouth than when given hypodermically.

98.—See abstract in JOURNAL, October 28, p. 1104.

99.—Ibid, October 21, p. 977.

100. **Treatment of Gonorrhea in Female.**—After first noticing the symptoms and pathology of the condition, Ravogli remarks that the disease must be treated as in the male, in the locality where it developed. The object is to remove the secretions of the mucous membranes promptly and often, and destroy the germs in the locality. The first is accomplished by frequent irrigations with antiseptic solutions; the second by applications capable of causing a superficial necrosis of the epithelium, thereby reaching the gonococci which enter the

epithelial cells and reach the underlying layers of the mucous membrane. For the first of these he uses a solution of bichlorid, 1 to 5000, or permanganate of potash of equal strength. These are easily given by the patient herself, with a fountain syringe, and will remove the secretions and diminish the inflammation, but will not touch the urethra or the condition of the uterus. Every two to three days, therefore, he inserts a bivalve speculum and thoroughly irrigates the vagina, and then carefully removes the secretions from the cervix. When this is abundant he uses a Talley or Haynes douche tube as far as the internal os, and washes out with a mild stream of the same solution, also in the urethra when symptoms of urethritis are present. He does not find it useful to fill up the bladder by the Janet method. Under ordinary circumstances he seldom uses irrigation to the cavity of the uterus unless the discharge is very profuse, but uses instillations with a 1 per cent. solution of protargol. The most effective antigonorrheal remedies are ichthyol and the silver preparations. In acute cases ichthyol usually readily cures. He finds protargol is the best remedy and latterly, since he has used this, he has not had to curette in nearly as many cases as formerly. He thinks it safer than formerly in the treatment of gonorrheal endometritis. In cases of gonorrhea complicating the puerperium, he insists on absolute rest in bed, morphin to relieve pain and hot applications to the hypogastrium, with warm antiseptic irrigations, reserving strong applications until the puerperium is over.

101. **Aspirin.**—Aspirin or acetyl salicylic acid is prepared by the action of acetic anhydrid on salicylic acid. Floeckinger finds it a reliable substitute for salicylate of soda, being more agreeable to take and disturbing the stomach less, while its effects are not less marked. It is not split up into its components until it reaches the intestines, except in cases of extreme gastric acidity. In physiologic doses the uncomfortable effects of salicylate of soda, such as tinnitus, etc., do not occur. He gives it preferably in 15 grain doses, in wafers, and he has had excellent results in dry pleurisy, acute rheumatism, and polyarthritis. He concludes that aspirin is a most valuable substitute for salicylate of sodium for the following reasons: 1. Its agreeable taste. 2. Its freedom from irritating effects on the stomach. 3. The absence of tinnitus aurium after the administration of physiologic doses. 4. The absence of cardiac depression. 5. The fact that it does not impair the appetite, even during prolonged use.

102. **Peripheral Causation of Epilepsy.**—Edsall reports four cases of epilepsy, in all of which there were eye troubles that were relieved by proper glasses. In the first case the cortical lesion was not so deep seated nor extensive that the doing away with the peripheral cause could not give relief. The patient did well after the use of glasses and the establishment of menstruation. In the second case the condition was only temporarily relieved. The third was not followed up fully, but was probably much like the first. In the last case the epilepsy was unmanageable, though he had expected good results. He thinks that the advocates of eye strain as a cause of epilepsy have overdone the matter and he expresses himself as follows: Asthenopia, due to refractive error, leaving out the question of whether it is causative or not, may at least determine an epileptic seizure. Muscular inequalities may produce asthenopia; therefore, why is it not possible for muscular asthenopia to determine such a seizure? The tenotomists in many instances have ridden their hobby so hard that they have been unable to read the signs by the wayside. It is a well-known fact that in many epileptics it is possible to bring about a temporary improvement simply by a change from one medicine to another. Analogously, it is possible that a tenotomy would temporarily benefit such as these remarkably; and, moreover, it is just possible that, as a few years since some apt simulators succeeded in convincing even as bright minds as are in the so-called "School of Nancy," that mental suggestion, hand in hand with the application of a bottle containing a given drug, would produce the characteristic effects of that drug, so also it is possible that the statistics in connection with tenotomies in the cure of epilepsy may be similarly impaired. Personally, he does not believe that eye strain from any cause is responsible for the status epilepticus.

104. **Syphilitic Leucoderma.**—Silverman reports a case of a journalist who had suffered harsh treatment and confinement by the insurgents in Cuba, and in consequence had acquired leucoderma or dungeon scurvy on an old syphilitic basis, which had been mistaken for leprosy.

105. **An Unusual Accident.**—The case reported by Marshall is that of a boy who was caught in some machinery and had his whole arm with the scapula and over half of the clavicle torn entirely away from his body, the entire shoulder and arm being left on the field. The remaining fragment of the clavicle having a sharp end, it was rounded off with bone forceps and the subclavian artery ligated, no other vessels requiring it. The parts were thoroughly cleansed with a 1 to 5000 solution of bichlorid, and sewed up with silk. On removal of the dressing, on the fourth day, there was little inflammation, and perfect union existed over nearly the whole extent when the stitches were removed. On the eighth day he sat up, on the tenth he walked across the floor and on the twentieth he came to the office and then walked half a mile to another physician's office where an X-ray picture was taken.

107. **Nasal Disease and Asthma.**—Bosworth's theory of asthma is that it is a vasomotor paresis of the blood-vessels of the mucous membrane of the bronchial tubes, rather than a spasm of the bronchial muscular fibers. He thinks that clinical observation has taught us that polypoid degeneration of the mucous membrane of the nose and nasal polypi are clearly symptoms of ethmoiditis. We often see, however, cases of asthma relieved by the removal of polypi, and the asthma recurs. This is due to the fact that the polypi are only symptoms of the ethmoid disease which still remains. He considers polypoid degeneration of the middle turbinate is almost pathognomonic of a similar affection of the lining of the ethmoid cells. The ethmoidal orifices become occluded by a mild inflammation which causes distension of the soft parts, crowding the middle turbinated body into the nose against the septum. He does not know why neurotic symptoms are so closely associated with ethmoidal inflammation, but we have ample clinical evidence that the vasomotor nerve-centers must be very close to the ethmoidal cells. The first thing that occurs with their disease is vasomotor disturbance of the nasal membrane, and we have sneezing and asthma. In treating these patients, we must not be content with removing only the polypi but we must attack the cell cavities—a delicate matter—and for this he prefers to use a burr rather than any other instrument. In cases where the polypi are situated in the superior meatus, we find most difficulty. Ethmoiditis is a common affection. A great many cases of cold in the head are simply this. When recognized in connection with asthma, especially if temporarily relieved by the local application of cocain, we can give a good prognosis and promise to cure by treatment of the ethmoidal cells. Only the intense neurotic cases that get up an attack of asthma on the slightest provocation, tax and baffle us.

108. **The Sheldon Murder Trial.**—Phelps concludes his review of the medical evidence of the Sheldon trial, the main point of which was the question whether a pistol-shot wound was suicidal or homicidal, and he concludes that the necessarily homicidal character of the wound was not proven, nor even rendered probable. The accused, however, was convicted of murder, he believes, largely from the fact that erroneous statements or deductions were not fully controverted, that expert evidence was beyond the comprehension of the jury, and that the latter was influenced by the attacks on the witnesses for the defense.

109. **Tabes Dorsalis.**—This paper, read before the N. Y. Academy of Medicine, October 19, is abstracted in our report of that meeting, elsewhere, and the discussion included.

110. **Functional Nervous Diseases.**—Punton's paper goes over the general subject of heredity, toxic action, etc., in the causation of functional nervous disorders, and suggests the prophylaxis in the way of marriage regulations and other civil and legal enactments that favor it.

111. **Ophthalmic Contributions.**—Webster reports cases of episcleritis with kerato-iritis, tenotomy and congenital cataract, relieved by operation.

112. **State Aid in Tuberculosis.**—Goler's paper gives a comparison of the cost to the state of disorders that are treated by the public, such as insanity, epilepsy, etc., and pleads for

similar measures in tuberculosis as a much more curable and hopeful disease.

113. **Military Sanitation.**—Greenleaf gives a description of the Presidio camps at San Francisco, where only about 5.5 per cent. of sickness has occurred as compared with the fearful record of Camp Merritt. He gives full details as to the camp organization and management.

114. **Tentage for Tropical Service.**—The unsuitability of our regulation shelter for tropical climates, particularly those used for hospital service, is here noticed. A new design of hospital tent with an enlarged fly and opened-up top and with a different color for the tent itself and the fly, is here described and illustrated. The arrangement has been tried and the temperature tables of the ordinary hospital tent and this improved type are given, showing the advantages of the latter.

115. **Postpartum Hemorrhage.**—The conclusions of this paper are summed up as follows: 1. A knowledge of the source of the hemorrhage is necessary to insure intelligent action. 2. All rents when easy of access should be repaired at once. 3. If the body of the uterus is contracted and bleeding excessive and in all cases of hemorrhage following placenta previa, the whole cavity should be tamponed at once. 4. If this is not successful, or if the hemorrhage is constant and not excessive, secure the bleeding vessels and, if possible, repair the injury. 5. If atony exist and hemorrhage is not excessive, use external and bimanual compression of uterus, followed, if necessary, by hot water, vinegar or acetic acid. 6. If not successful or if atony exist with excessive hemorrhage from the outset, tampon at once after using hot water. 7. Give morphia hypodermically to check the hemorrhage and stimulants, strychnia and autoinfusion to overcome the effects of the hemorrhage. 8. To prevent anemia use saline solution, preferably per rectum or hypodermically. May use saline solution by infusion also, if necessary.

116. **Urotropin.**—Thompson gives his experience with urotropin in cases of bladder and urethral disease with irritability of the vesical neck, and in cases of enlarged prostate. He finds that about 7.5 gr. morning and evening have generally proven a sufficient dose, though when a third is required it is given.

122. **Rupture of Hydronephrotic Kidney.**—Sexton here reports a case of hydronephrosis causing kidney rupture, with detailed history. The synopsis of the case is given as follows: 1. The gradual, almost painless formation of hydronephrosis from a minor injury. 2. The obstruction and distension from catching a common cold. 3. The bursting of a vessel into the now distended sac. 4. The relief occasioned by discharging sixteen ounces of bloody urine. 5. The sudden change in the character of the pain when this drain becomes obstructed. 6. The giving way of the thin-walled kidney under the now unrelieved pressure. 7. The rapid collapse from internal hemorrhage. 8. The treatment of internal hemorrhage. 9. The arrest of hemorrhage by the pressure of the walls of the new-formed sac. 10. The recurrence of the hemorrhage on removing that pressure. 11. The necessity of evacuating the fluid because of blood poisoning from its decomposition. 12. The nephrectomy on collapsing patient to control the bleeding. 13. The development of so-called heterogeneous jaundice from absorption of blood coloring-matter. 14. The ability of a single kidney to secrete double the quantity of urine normally secreted by both kidneys. 15. The cause of the diuresis. 16. The observation of continued vomiting of bile-blackened, ink-like water in excess of all fluids ingested or injected. 17. The dangers of sloughing and abscess from using saline transfusions too hot.

124. **Smallpox.**—The mild type of smallpox at present prevailing in various parts of the United States is here noticed by Welch, who remarks on the difficulties of diagnosis and the lack of training of the average physician in such contagious diseases. He says that in twenty-nine years of hospital work, including a study of over 5500 cases of smallpox, he has never seen so mild a form as during the present year, nor has he found any account of such in the literature. He concludes his paper with the differential diagnostic points between varicella, impetigo contagiosa and pustular syphiloderm and smallpox.

125. **Smallpox in Cuba.**—Woodson gives an account of the smallpox in the district of Holguin, Cuba, during the early American occupation of the island, and the methods by which it was met. He makes a severe charge against the agents of the Red Cross Society, whose supplies he was compelled to seize. Tables are given as to the number of cases, ratio of mortality, types of the disease and the treatment. The general plan of the latter was, daily scrub-baths with 1 to 2000 mercuric chlorid and open-air treatment. No attempt at cosmetic treatment was made. See also JOURNAL, Feb. 29, p. 409.

127—See last week's JOURNAL, ¶130, p. 1285.

128. **Rheumatism and Erysipelas.**—Salinger reports a case where pericarditis, pleurisy and erysipelas occurred in the course of acute rheumatism. He remarks on the theory of a certain French author, that rheumatism may be secondary and due to the infection by the streptococcus of erysipelas, which, he thinks, this case disproves.

FOREIGN.

British Medical Journal, November 4.

Discussion on Headaches and Their Treatment. T. LAUDER BRUNTON, DUNDAS GRANT, T. CLIFFORD ALLBUTT and others.—In the pathology of headache we have to consider the general and local conditions. The first render the patient liable to pain, the second determine where that pain shall be. The general conditions which lead to headache are either imperfect or disordered nutrition. We find headache common in anemia, and still more so in disordered nutrition, as in rheumatism, gout, and in albuminuria. The nature of the alteration of nutrition is hard to determine, but Brunton calls attention to the importance of the liver in this connection. This stands at the gate of the organism, and prevents the deleterious substances from the intestines from passing into the general circulation. When these accumulate in their round from the intestines to the liver, until the organ is overtasked, they manage to get into the circulation, and in this way he accounts for much of the toxin headache, and the relief obtained by cholagogues and aperients is evidence of this fact. Why do toxins fasten upon the head and cause headache instead of pain elsewhere? Brunton credits this to local lesions, the most common of which are decayed teeth, or something wrong with the eyes or nose. The headaches from vasomotor spasms or brain tumors are also noticed. The treatment of headache, according to Brunton, is to try to supply the brain with healthy blood and clear away any toxins, and one method is to give a blue pill and a black draught, or its equivalent, but we may further give something to counteract the toxin, and he knows of nothing better than salicylic acid or salicylate of soda. Analgesics are useful when the pain is not too severe, and morphin as a last resort, but this should be avoided for fear of inducing the habit. In gouty, rheumatic and syphilitic headaches from inflammation of the periosteum, iodid of potash is very useful. In conclusion he cautions that in cases of intense headache unrelieved by drugs always look out for glaucoma.

Treatment of Headaches. ALEXANDER HAIG.—The treatment of paroxysmal uric acid headache lies, according to Haig, in the avoidance of all animal foods except cheese and milk, and of certain vegetable foods rich in alkaloids, such as tea and coffee, and in taking just as much, and no more, albumin as will produce 3 to 3½ grains of urea for a pound of body weight per day and, if necessary, a course of salicylates to aid elimination.

Further Experiments with Pane's Antipneumococcus Serum. J. W. J. EYRE and J. W. WASHBOURN.—From experiments here detailed, the authors conclude as follows: 1. The serum, in doses of 1 c.c. possesses, for rabbits, a considerable protective power against four out of five strains of pneumococci derived from different sources. 2. It has no protective power against one strain which in morphology, virulence, and culture characteristics is a typical pneumococcus, and which was obtained from a fatal case of pneumonia. 3. There exist varieties of the pneumococcus which at present can only be distinguished by the action of antipneumococcus serum.

Discussion on Intestinal Antiseptics. I. BURNEY YEO, VAUGHN HARLEY, FRANCIS GOODBODY, and others.—Yeo considers the use of antiseptics to be to prevent, limit or control the development and absorption of toxic products in the intestinal canal, and to antagonize the evil effects of such as are

produced within this tract. The scientific and experimental basis of intestinal antisepsis is that these septic and putrefactive processes of the intestinal canal are due to bacteria. The morbid conditions in which intestinal antiseptics are indicated are the morbid fermentations that occur in gastric and intestinal disorders in the inflammatory conditions of mucomembranous colitis, diarrhea, etc., or the different symptoms depending on intestinal toxins, such as tachycardia, migraine, etc., in chlorosis and uremia which may be connected with these conditions; also in other important diseases, as cholera, dysentery and typhoid where intestinal antiseptics have been recommended. He reports observations and quotes authorities for their use. The substances which he thinks useful are calomel, carbolic acid, a chlorin mixture, thymol, etc. He does not favor the use of salol.

Harley and Goodbody report experiments on the usefulness of antiseptics. Their conclusions are: 1. Estimating the quantity of aromatic sulphates daily eliminated in the urine, one is able to gain an insight into the amount of putrefaction occurring in the intestine at a given time, provided aromatic substances are not being administered. 2. Washing out the large intestine by copious enemata is capable of decreasing the aromatic sulphates in the urine, and therefore causes a diminution of intestinal putrefaction. 3. When a mild aperient is given not sufficient to act as a purgative, but sufficient to in all probability cause a more complete emptying of the bowels, this acts as an intestinal antiseptic, decreasing the amount of aromatic sulphates in the urine, not only when they are increased owing to increased intestinal putrefaction, but even when they are only small in amount. 4. Calomel, when given in small doses so as to produce no purging, does not diminish the aromatic sulphates in the urine to a sufficient extent to say that it acts as an intestinal antiseptic when the aromatic sulphates at the beginning are small. On the other hand, when, however, there is undoubtedly an increase in intestinal putrefaction, small doses of this seem to act as an intestinal antiseptic.

Cases Treated with Erythrol Tetranitrate. HUGH WALSHAM.—Walsham gives pulse tracings and clinical reports of cases of cardiac disease, etc., treated with erythrol tetranitrate with, he thinks, considerable success.

Treatment of Digitalis Poisoning: An Experimental Investigation. J. J. TAYLOR and C. R. MARSHALL.—The authors conclude from their observations that the treatment of digitalis poisoning must be symptomatic. They know of no antidote to this drug, in any true sense of the word, nor do they think we shall ever know of one. Digitalis enters into the tissue metabolism very slowly, produces distinct structural changes, and is slowly eliminated. It, therefore, possesses the most unfortunate characters for the action of an antidote. Apparently all that we can do is to withdraw the drug if it is being given medicinally, clear the alimentary canal of any digitalis it may contain, increase the rapidity of elimination by diluents, allay sickness, reduce arterial tension when high, procure sleep if necessary, and treat other symptoms as they arise. In other words, the condition must be treated as if it were, which it is, an ill-understood disease. For the reduction of arterial tension nitroglycerin, as an ally, is the best remedy; but with a low blood-pressure, which is not infrequently present in digitalis poisoning, this is useless. In such cases small doses of alcohol, insufficient to produce vasodilatation, would probably prove of greater service.

Lancet, November 4.

Bradshaw Lecture on Causation of Functional Heart Murmurs. ARTHUR FOXWELL.—Among the functional murmurs of the heart, Foxwell treats of only the one which he calls the pulmonary murmur. It is always systolic, best heard over the second and third left spaces close to the sternum and conducted up and out toward the left shoulder. It may vary somewhat from these limits, but this is its general position. It is accompanied by the pushing up and out of the apex, very slight increase of dulness to the right, and pulsation in the second, third and fourth left spaces. Often, when lying supine, an indefinite pulsation exists in the veins in the right side of the neck. The pulse varies considerably, being generally short and abrupt in ending. The chief symptoms are dyspnea on exertion, especially sudden. Palpitation, irritability and dyspepsia are common. The skin is dull, toneless and pallid. The condition is common in adolescence, especially so in chlorotic girls. There is generally a history of cardiac strain or too early return to work after illness, prolonged anxiety or mental strain. He gives the histories of a large number of cases, and details of experiments performed on hearts from the cadaver. There was one post-mortem abnormality constantly found in patients who had died with this functional pulmonary murmur, i. e., dilatation of the conus and pulmonary artery so that when supine it tends to lie directly over the bifurcation. He believes that is the cause of the condition, and gives his reasons and experiments to confirm it.

Treatment of Certain Forms of Neuralgia by Injection of Osmic Acid. WILLIAM H. BENNETT.—The author believes that in certain forms of neuralgia the injection of osmic acid is the most promising method of treatment thus far known to him. He uses a solution of 1.5 per cent. injected directly into the nerves. During the injection a pledget of sterilized gauze or wool should be firmly held around the middle of the orifice of the wound in order to prevent the escape of fluid externally.

Medical Press and Circular (London), November 1.

After-Effects of Removal of Appendages and of Uterus. J. FURNEAUX JORDAN.—The author sums up the effects of removal of the appendages as follows: "The final results in cases of removal of the appendages for inflammatory diseases is uniformly good. The severity of the artificial menopause is most marked in young women. The mortality in severe cases of pyosalpinx treated by abdominal section is higher than one would wish. The use of the drainage-tubes involves a weak spot in the scar. The likelihood of leaving behind some portion of ovarian tissue is great in cases of very dense adhesions. The effect of this passes off in time. If the appendages are fully removed, menstruation ceases entirely. The necessity for, and the advantages to be derived from, removal of the uterus will rarely occur. I may now add: Be as conservative as possible, especially in young women, and in 'conservatism' I include not only operative but also non-operative measures. Treat all severe cases of pyosalpinx, if possible, by the vaginal route. Do not drain unless absolutely compelled to, and then consider the possibility of draining by the vagina. Do not get disheartened if the patient does not get the full benefit of the operation for some little time." He also considers the subject of myoma and its removal, and finds that cases do occur in which no operation is immediately called for, but which under the continued administration of ergot and hydrastis, combined with rest, may be safely kept under observation for some time, provided they do not steadily increase in size; and that there are also cases which call for the removal of the appendages instead of hysterectomy. For large unwieldy tumors locking up the pelvis, hysterectomy is the treatment. He prefers the combined method. For small myomata demanding interference on account of their rate of growth and hemorrhage or pain, he hesitates between the two operations. Each case must be judged for itself. He tabulates thirty-eight cases of removal of the appendages and twenty-four of myomectomy.

Archives Orientales de Medicine et de Chirurgie (Paris), October.

Treatment of Aneurysms of Aorta with Gelatin. KALINDERO.—In the observation described there were unmistakable evidences of a large aneurysm of the arch of the aorta on a basis of malaria and syphilis with difficulty in respiration and cyanosis of the lips and extremities. Vigorous specific treatment failed to relieve the symptoms, and 100 c.c. of a solution of 1 gram of gelatin in 100 c.c. of salt solution, was injected subcutaneously in the buttocks. There was a slight chill and the temperature temporarily rose to 38.5, but in a few days the dyspnea had disappeared and the attacks of suffocation and coughing had become much less frequent and severe. The injections were repeated every week, producing each time the same slight, transient reaction. By the fifth injection the aneurysmal sac was obliterated and retracted, and all the functional troubles had vanished, and the patient considered himself entirely cured.

Presse Medicale (Paris), November 1.

New Methods of Abdominal Suture Without Sunken Threads. T. JONNESCO.—Most persons are content to publish

one invention at a time, but in this communication Jonnesco describes three methods of suture, "each better than the last," expressing his preference for the latest, which consists in a median incision and resection of the linea alba the length of the wound, opening the sheath of the rectus on each side. After the median incision the long narrow flap of aponeurosis formed by the resection of the linea alba and two narrow strips of the anterior lamella, each side of it is excised. A second flap, the same shape and size, is then cut out of the posterior lamella by taking up a fold in it. The sheath of the rectus is then closed, each side by a row of small clamps fastening the peritoneum to the skin all around. When the operation is completed the abdominal wall is sutured, a compress protecting the intestines. The sheath of the rectus on the left, the side farthest from the operator, is closed with small clamps holding the free edges of the two lamellæ together, the peritoneum taken up with the posterior lamella. The sheath toward the operator is left open, the two lamellæ seized separately by the forceps. The aponeurosis must be detached from the hypoderma and exposed for a distance of 2 cm. on the right and 1 cm. on the left. The suture is made with a single row of wires which close the sheaths of the rectus. The needle is inserted in the right lip of the wound, 3 cm. from the edge, and passed through the four lamellæ of the rectus sheaths and the lips of the peritoneum, the wire left projecting on each side. Other wires are carried through the tissues in the same way. The left end of the wire is then taken in the needle and brought back to the right side, first through the anterior lamella and then through the skin, directly above the points where it passes through them in the other direction. Each stitch thus forms a U, the ends of the wires all on the right side, where they are twisted over a roll of gauze. The skin is sutured separately and may need to have a narrow strip excised to fit the loss of substance beneath, as otherwise there may be knobbiness and a space left for the accumulation of serous fluids, interfering with cicatrization. He removes the wires on the tenth day. The direct approximation of the sheaths of the rectus in this way forms an extremely solid first-intention cicatrix, as he has established in the fifteen cases thus operated on.

Progress Medicale (Paris), October 28.

Appendicitis. J. NOIR.—The statement that appendicitis is a fashionable disease applies also to the frequent changes of opinion in regard to treatment. While Dieulafoy is preaching intervention in the first twenty-four hours, the surgeons are growing more and more conservative. The *Scalpel* of Liege publishes an enquiry among six prominent American surgeons—"and the American surgeons are not noted for excessive timidity"— which proved that four operate only in a limited number of cases. MacBurney is credited with saying he does not consider it necessary to operate in all cases any more than he would amputate a hand on account of a septic wound on a finger. Senn, Bridon and MacGuire are reported as agreeing with him, and only Morris and Powers are partisans of intervention as soon as the diagnosis is established.

Centralblatt f. Chirurgie (Leipsic), November 4.

Salzer's Radical Operation for Crural Hernia. A. BRENNER.—This report of 63 herniotomies made according to Salzer's method, proposed in 1892 (*Cbl. f. Chir.*, 33), shows that permanent success was attained in 91.8 per cent. of the 49 cases followed to date. The four with recurrence of the hernia were extremely exceptional: 1 with artificial anus, 1 with bilateral hernia; 1 operated on by an assistant. The method consists essentially in cutting a wedge-shaped flap out of the pectineus with the base on the pubis. The flap is drawn up closely and sutured to Poupart's ligament, thus closing the opening. The cases reported date from 1894, 3; 1895, 10; 1896, 10; 1897, 9; and 1898, 13; the operation is simple and harmless; the only difficulty is the vessels in the lower angle of the wound, which require compression or ligature. Brenner drains for twenty-four hours.

Deutsche Medicinische Wochenschrift (Leipsic), November 2.

Basophilous Granules in Red Corpuscles. M. LITTEN.—In 1 out of every 10 cases of anemia examined the granules in the cell were evidently due to disintegration of the nucleus, the transition forms were numerous and the marrow of the bones examined was intensely red and swelled out over the sawed surface. Most of the red corpuscles had nuclei, and these were in various stages of unmistakable granular disintegration. Engel has also announced that in mice embryoes at a period when there is no bone marrow, the nuclei of certain erythroblasts are not expelled but undergo a granular disintegration. Evidently the nuclei of the newly-formed red corpuscles are destroyed partly in the marrow and partly in the blood, and the nuclei of the newly-formed reds are unable to replace the destroyed reds, but are also devoted to destruction. This may be a physiologic process in the blood of embryoes, as Engel seems to have established, an extravagance possible to young growing organisms with a wealth of material at their disposal, but in cases of anemia it is a pernicious process. This granulation in the reds has no diagnostic nor prognostic significance that he was able to determine.

Death from Chloroform. A. SIPPEL.—If it is ever again Sippel's experience to have the heart action stop while the respiratory function and reflex excitability are still retained, as in a typical observation he reports, he will at once expose the pericardium or the pleura through an incision in the fourth or fifth intercostal space and, by rhythmic application of the induced current to the heart, endeavor to stimulate it to contract, and in case this fails, send an interrupted current through a fine needle inserted into the heart muscle itself, the other electrode applied anywhere to the thorax. Landois quotes, in his "Physiology," that when the contractions of the frog's heart have become weak and irregular they can be made regular and normal again by electric stimuli applied in a rhythmic isochronous series. The heart responds with the same energy to the feeblest as to the strongest stimulus. By this rhythmic faradization applied directly to the heart tissue, combined with artificial respiration, etc., Sippel thinks it possible to restore persons who now succumb in spite of all our efforts. By analogy with the action of chloroform on other nerve-centers, it is reasonable to assume that the cardiac nerve-centers would also quickly resume their automatic activity after chloroform paralysis, if, by the means described, we are able to flush the heart with blood richer in oxygen and poorer in chloroform. Sippel states that he now never administers chloroform without a physician as the anesthetist and, if possible, with still another assistant for the mechanical part of the work.

Renal Hemorrhage of Angioneurotic Origin. W. POLJAKOFF.—Klemperer observed two cases of angioneurotic renal hemorrhage, diagnosed *per exclusionem* and the success of hydrotherapy; Sokoloff, another in which the hematuria coincided with a lesion of the cortex, and was evidently due to a disturbance in the central vasomotor system, and not to hemophilia nor trauma, the other two groups noted in Klemperer's classification. Poljakoff describes another observation in which migraine and manifestations of disturbances in the vasomotor system of the cutaneous vessels, with severe neuralgias restricted to the same side, the kidney painful to pressure but otherwise normal, all indicated the angioneurotic origin of the hematuria, which recurred after excitement or a railroad trip. But the most convincing proof of this etiology was the hemorrhage from the intestines—no hemorrhoids nor constipation—which supplanted the hematuria on one occasion. The patient was a young woman of a neuro-arthritic family, but no hemophilia. The hematuria lasted three to five days and recurred three or four times in three years. Rest, milk and ergot were ordered.

Course and Prognosis of Tuberculous Pneumothorax. U. ROSE.—Suppurative pneumothorax is apt to be more unfavorable than the serous or those without effusion. Ten absolute recoveries from sero-pneumothorax with advanced tuberculosis are on record, and twelve from pneumothorax without effusion in similar conditions. Rose adds three new observations to the list; in one the pneumothorax was entirely absorbed in a short space of time, although the tuberculosis had invaded both lungs, and cavities were evident.

Muenchener Medicinische Wochenschrift, October 21.

Convulsions in Infancy. M. THIEMICH.—The functional clonic and tonic, general and partial contractions of the muscles in children under 2 years of age, with more or less severe functional disturbances in heart, respiration, etc., and without

macroscopic evidence of any affection of the central nervous system, have been attributed to an autointoxication, proceeding either from the intestines, the intermediate metabolism, or from a certain organ, the liver for instance. But Thiemich states that the injection of an entirely harmless salt, such as natrium chlorid, in a very hypertonic solution, into the circulation of an animal, a rabbit for instance, will produce similar general convulsions. This action is due exclusively, he considers, to the disturbance of the osmotic inter-relations between the blood and the tissues, and as we can clinically establish, in sick infants, by the sinking in of the fontanelles and bulbi, the dryness and deficient elasticity of the skin, that the tissues are deficient in water, the same etiology possibly applies to the cerebral symptoms and especially the convulsions, in eclampsia infantum.

So-Called Functional Mental Disorders. FRANZ NISSL.—For a number of years Nissl has been making a histologic study of every brain that came to the autopsy, and he announces that every psychosis—whatever its nature—has a positive anatomic cortical foundation, and hence the term of functional mental disorder, meaning one without an anatomic foundation, must be abandoned. He has preparations from persons with katatonia, in which the proliferation of the glia is fully as pronounced as in cases of progressive paralysis. He also has preparations from "involution melancholia," in which the ravages in the cortex were much more severe than in paralysis. In a case of suicide he found a most astonishing increase in glia-cells, and that they had swallowed the greater part of the nerve-cells of the inner zone of the medullary fibers. The man had been considered sound to the very last, but inquiry showed that he was a victim of unrecognized katatonia. He announces that in eighty cases of progressive paralysis Unna's plasma-cells were constantly found abnormally numerous in the adventitia of the cortical vessels, while Ehrlich's granular cells —Mastzellen—were occasionally encountered in cases of epilepsy, katatonia, melancholia, idiocy, etc. We can assume, therefore, that the presence of Unna's plasma-cells is pathognomonic of paralysis, but no one would claim that the psychic manifestations are due to these, and it has never yet been absolutely established that any of the alterations noted in this disease are the cause of the psychic disturbances. "We can only distinguish the nerve-cells and the nerve-fibers to a certain point. We trace the nerve-fibril to the wall of the nerve-cell, and beyond, to the tips of the dendrites and follow the dendrites through the axon into the axis-cylinder to the point where it vanishes from our sight. The wall of the cell confines the pericellular network, and this side is the gray substance in which the axis-cylinder has vanished from our observation. We know nothing of the more intimate relations between the nerve-fibril and the cell body, or between it and the gray substance, and any interpretation of these facts is utterly beyond us. The question now before us is to determine whether and to what extent the clinical pictures observed parallel the pathologic anatomic processes." "Diseases developing on an anatomically intact foundation are unknown to science."

Zeitschrift f. Hygiene u. Inf. xxxi, 3.

Constant Presence of Long Streptococci on Healthy Tonsils and Their Significance. P. HILBERT.—Streptococci, frequently virulent, were constantly found on the healthy tonsils of fifty school children and fifty patients at the Polyclinic. Comparison of the streptococci found on the tonsils of ten healthy persons and ten with tonsillitis failed to reveal any difference between them in respect to their behavior in cultures or in their virulence. Hilbert draws the inference that it is in the highest degree improbable that the streptococcus has any etiologic significance whatever in respect to infectious affections of the tonsils.

Medicinskoye Obosrenye (Moscow), August.

Bacterioscopic Diagnosis of Diphtheria. O. BRONSTEIN.—Long experience in the Bacteriologic Institute has convinced Bronstein that simple bacterioscopic examination of the membrane will answer the same purpose as cultures in determining the presence of the bacillus. He modifies the ROUX-YERSIN method as follows: the preparation is dried and fixed and a mixture poured over it consisting of one part dahlia (dahlia, 1; 36 per cent. alcohol, 10, and water 90), to two parts methyl green (methyl green, 1; 96 per cent. alcohol, 10, and water, 90). It is then rinsed in water and dried with blotting paper. With an oil-immersion objective the bacilli can then be easily distinguished as dark violet rods. Neisser's methylene blue—Bismarck brown stain is also effective in differentiating the genuine from the pseudodiphtheria bacillus.

Voyenno-Medizinskii Journal (St. Petersburg), June.

Therapeutic Prophylaxis of Malaria. M. MANOZKI.—About 15 per cent. of all disease in the Russian army is due to malaria, and 36 per cent. in the southern provinces. Manozki computes the expense of hospital and other treatment of this number of cases and compares it with the expense of systematic prophylactic administration of quinin, proving that pecuniary reasons alone are sufficient to enforce the necessity of prophylactic therapeutics in regions with epidemic or endemic malarial infection.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, Wagoner, December 5-6.
North Central Illinois Medical Association, Mendota, December 5-6.
Southern Surgical and Gynecological Association, New Orleans, La., December 5-7.
Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.

International Congress of Higher Education.—Brouardel has been appointed president of this Congress, to convene at Paris, July 30 to August 4. Secretary-general M. Larnaude, à la Sorbonne, Paris.

International Life Saving and First Aid Congress.—This Congress will open at Paris, July 17, 1900; subscription five francs, or twenty francs for "donating members." General secretary, M. F. Michotte, rue Condorcet, 21, Paris.

Vermilion County Medical Association.—This Association elected the following officers at the meeting held in Danville, Ill., November 10: president, W. A. Cochran; vice-president, T. E. Walton; secretary-treasurer, E. E. Clark.

Des Moines County Medical Society.—At the annual meeting of this Society, held in Burlington, Iowa, November 15, the following officers were elected: president, J. W. Dixon; vice-president, George Kinney; secretary and treasurer, A. C. Zaiser.

Fox River Valley Medical Association.—The semi-annual session of this Association was held at Aurora, Ill., Nov. 14. These officers were chosen: president, J. E. Bumpstead, Dundee; vice-president, J. A. Rutledge, Elgin; secretary and treasurer, G. F. Allen, Aurora.

Nova Scotia Society.—The annual meeting of the Nova Scotia Branch of the British Medical Association was held at Halifax recently. Officers elected for the ensuing years were: president, E. A. Kirkpatrick; vice-president, G. C. Jones; treasurer, M. A. B. Smith; secretary, C. D. Murray.

N. Y. Academy of Medicine.

Oct. 19, 1899.

LOCOMOTOR ATAXIA.

DR. C. L. DANA read a paper on this subject, considering: the pathologic anatomy; pathogeny; relation to heredity, occupation, syphilis; importance of diagnosis of anomalous symptoms and types, ocular, optic, cardiac, gastric, rectal, neuralgic, articular; methods of treatment, value of antisyphilitic measures, electricity, hydrotherapy, mechanical measures and Trexenhil's method.

DR. C. M. HAMMOND said that it is undoubted that tabes may be a, or part of a, systemic disease, but tabes may exist without any systemic complications. The poison in the system, which produces cerebrospinal disease, may spend its force on the spinal cord and brain, or it may be confined to the spinal cord, and thus we see either disease of the cerebrospinal system, or tabes dorsalis alone.

As to the morbid changes of the disease, he agrees with the author that the morbid changes which produce tabes occur in the nerve roots and ganglia. We might have all the symptoms

of tabes without the changes occurring in the nerve roots. Excluding new growths and a few other conditions which may press on the posterior columns, we might have connective tissue changes which produce the symptoms of tabes: e. g., multiple sclerosis and possibly sclerosis without being multiple but confined to the lumbar region of the cord.

As to the syphilitic poison acting primarily on the neurons themselves, he has doubts. In many cases the first change is a physiologic vascular one; there is syphilitic disease of the vessels with thickening of their walls and occlusion of their lumen, producing a closure of the nerve tracts.

In treatment, the antisyphilitic is desirable, for it tends to prevent further degeneration. Potassium iodid prevents or decreases the liability to further changes in the neurons. As to the rest cure of tabes, the best way to promote vitality in an organ is to use it moderately. The moderate use of an organ always has a tendency to improve and strengthen it, and promote its higher organism. Therefore he does not recommend rest, but moderate exercise of all kinds. Although the changes in tabes have been compared to those of senility, he does not think this comparison is accurate: the changes in senility are normal, while those in tabes are abnormal and should not be regarded in the same therapeutic light. He has never seen any benefit from electricity, and does not believe that it arrests the changes in any way. He approves of hydrotherapy, but does not see the value of any medicated water. The skin does not absorb the drugs. Large doses of strychnia are good. He has given this hypodermically as high as in ¾ gr. doses without any toxic effect, and with very decided improvement in the tabetic symptoms. It acts by improving the nutrition of the degenerated parts, and thus increases the efficiency of diseased portions of the cord. There is some doubt as to the benefit of be derived from Fränkel's method. It acts entirely through the medium of the eye. The muscular sense of the patient is gone, his tactile sense is interfered with, and improvement is through the eye alone. The result of this treatment differs greatly among people of different grades of intelligence, and he has seen very little benefit from it.

DR. B. SACHS said that tabes dorsalis is perhaps not a spinal disease in its inception, but those who have seen post-mortems on these patients must admit that we are dealing with a disease which inflicts much damage on the spinal cord. We had better continue to regard the disease as a spinal cord affection. Many of the cases which impress one as cases of tabes dorsalis prove in the end to be cases of cerebrospinal syphilis simulating tabes.

The efficacy of antisyphilitic treatment is largely influenced by the fact that we can not always be certain that a case which appears to be genuine is not after all a case of cerebrospinal syphilis simulating posterior spinal sclerosis. He, on this account, advocates antisyphilitic treatment, particularly in the early stages. He agrees with Dr. Dana as to the rest treatment, particularly as given in institutions, as a favorable adjuvant in the earlier stages. If these patients are simply put to bed for four or six weeks or three months, without any medical treatment, they are sure to derive much benefit from the rest. Dr. Hammond's objection to the rest treatment, he could not quite appreciate: exercise, at least excessive exercise, is likely to bring about changes in the spinal cord similar to those observed in posterior spinal sclerosis. Resting is favorable, and it is largely on account of the rest treatment that patients in institutions do better than those in private practice. His own experience with the Fränkel method during the past two years has been extremely favorable. The patient does not particularly care whether he will be able to walk again. A number of patients who were unable to walk or even to stand without the assistance of at least a heavy stick, have been taught by this method to walk independently and to go about their business. We should encourage the general practitioner to teach his patients this method, which can be combined very well with the rest treatment. We should not leave the impression that tabes is an unsatisfactory disease from a therapeutic standpoint. There is much to be done for these patients in the way of increasing their comfort and improving their symptoms; we can at least alleviate their suffering, even if we can not cure them.

DR. M. ALLEN STARR said that the only question he could raise would be in regard to syphilis as a factor, as we are a little prone to take an extreme position in medicine, and therefore are liable to be open to the accusation that fashions in medicine prevail, and that we run with them. The question of syphilis in connection with tabes is still an open one, and although Erb says that 89 per cent. of his cases have had syphilis, he also admits that 11 per cent. have not had it. The statement of Dr. Collins, that if we could obliterate syphilis, we could also obliterate tabes, must be accepted with some doubt, he said, his own statistics showing that with over 300 cases of tabes only about 70 per cent. gave any history of syphilis, and in his private practice the percentage in which any history of syphilis is obtainable is about 40. He believes the vast majority of patients with tabes have had syphilis, and that the syphilitic virus had something to do with spreading the degeneration of the sensory neurons, but that every patient who has tabes has had syphilis, he does not believe. Syphilis is very prevalent in Japan, while tabes is rarely seen there. On the contrary multiple neuritis as well as other types of neuritis are very common. Tabes appears to be a disease from which the Japanese are entirely exempt, which he thinks is due to the fact that the Japanese—even the laboring classes—bathe very frequently, sometimes two or three times daily, and this keeps the peripheral circulation in very much better condition than in those people who do not bathe very often. The sensory neurons have two branches—one to the spinal cord, the other to the skin—and in tabes both of these probably undergo degeneration. By hydrotherapy we influence this peripheral branch by improving the general circulation of the body. He believes thoroughly in the rest treatment, does not urge patients to exercise, and has never used large doses of strychnia, because strychnia and nux vomica tend to increase pain.

DR. WILLIAM M. LESZYNSKY has during the past fifteen years examined many cases of tabes without being able to elicit either a history of syphilis or detecting any of its somatic symptoms. In a large percentage of cases there was no such history, and he has never felt justified in putting these patients on antisyphilitic treatment. Even in cerebral spinal syphilis, particularly in the exudative stage, benefit is not always derived from this treatment. He tried Fränkel's method, in four cases, and was rather disappointed by it in two of these, who were not benefited at all.

DR. WILLIAM H. THOMPSON said that attention should be drawn to the frequency of visceral complications in tabes, especially in the initial stage, when they are very apt to lead to mistakes of diagnosis. Recently he saw a case where severe gastric flatulence coming on suddenly and then suddenly subsiding was the predominant symptom. It has been his practice to make applications of red pepper in the form of an infusion, one dram to a pint of warm water, along the spine, and especially to the anesthetic areas. Invariably the patients have obtained more or less relief from such applications, and in some cases they were followed by the absolute disappearance of the anesthesia. He is also very partial to the application of the actual cautery to the spine. A very good substitute for this is a glass pipette, which is heated over an alcohol lamp, and then applied to the painful spots. He believes acetanilid in combination with belladonna good for the pains, and also lays great stress on cod-liver oil, giving it as long as the stomach will bear it. He agrees with what has been said about the value of warm baths, either plain water or artificial Nauheim baths, the object being to improve the peripheral perspiration. We all agree as to the value of the rest cure, but the majority of our patients wish to lead an active life: they still wish to continue to make their living, and can not afford to lie abed for four weeks or longer. The same connection exists between tachycardia in tabes as we find between tachycardia and other conditions in other diseases, and by preventing intestinal fermentation we improve the symptoms.

DR. DANA, in closing, said: I know little about Fränkel's treatment, but believe it is useful. I take very much the same position as does Dr. Starr on the connection between syphilis and tabes. In from 75 to 80 per cent. of cases we get an absolutely genuine history of syphilis, and can trace the exact chain of symptoms. In the others certain links in the chain are missing, although they may exist.

College of Physicians of Philadelphia.

Section on Otology and Laryngology, Oct. 18, 1899.

LARYNGEAL TUBERCULOSIS.

Dr. P. S. Donnellan read a communication entitled "Some Points in the Diagnosis and Treatment of Laryngeal Tuberculosis." Accurate diagnosis he held to be essential to success in the treatment. Routine treatment is to be avoided. Each case must be studied by itself in order to obtain the best results. The diagnosis is made from the history, the temperature record, the appearance of the larynx, and in the later stages the detection of the Koch bacillus in the sputum. Dysphagia, in advanced cases, is one of the most distressing symptoms, and there is more or less alteration in the voice, and always cough with mucous, purulent, or bloody expectoration. The laryngoscopic appearances at an early stage are a peculiar pallor of the mucous membrane, which, however, is not pathognomonic. More significant is a diffuse hyperemia, succeeded by local infiltration, usually beginning in the interarytenoid space, the epiglottis, or the ventricular bands, or in the vocal cords. The crescentic border of the epiglottis may become turban-shaped and the arytenoids pyriform. There may be shallow, irregularly circular ulcers, covered with a mucopurulent secretion, which contains tubercle bacilli. Lung disease generally coexists and physical examination aids the diagnosis. The principal diseases likely to be confounded with tuberculosis of the larynx are syphilis, carcinoma, and lupus. In the two latter, the tubercle bacilli are absent, and they are likely to be attended by characteristic cutaneous manifestations. The trial of antisyphilitic medication will often clear up the diagnosis in a doubtful case.

Climatic treatment will greatly contribute to a successful result, especially a moderately dry, warm climate of equable temperature, free from dust, and with abundant sunlight. Diet should be abundant and nutritious. Physical exercise, bathing, and massage are valuable. The patient should spare his voice as much as possible and speak only in a whisper. A sea voyage is useful in selected cases. In addition to the internal treatment directed to the pulmonary condition, with cod-liver oil, creosote, iron, arsenic, or strychnin, and intravenous or subcutaneous injections of cinnamic acid or sodium cinnamate, local treatment is of great importance. Following a 10 per cent. cocain application to the affected area, submucous injections of minim doses of guaiacol or of creasote—by a special syringe devised by James Donellan of London—have proved advantageous. The local use of lactic acid by Krause's method is approved. In ulcerative processes, orthoform insufflations relieve the pain, but are less efficient in bringing about healing than lactic acid applications—20 to 80 per cent. Formaldehyde and para-mono-chloro-phenol in his hands had given the ulcers a healthier appearance, but did not bring about healing until lactic acid was subsequently applied. Symptomatic treatment will be required for cough, etc. The stomach may be used for feeding, with the patient in the Trendelenburg posture. In extreme cases, rectal feeding may be resorted to until the larynx is sufficiently improved to allow nourishment to pass painlessly over the epiglottis. Tracheotomy is only admissible in impending suffocation.

Dr. Joseph S. Gibb said that prompt diagnosis is important as it is only at an early stage of the disease that any method of treatment is of much avail. Authorities lay great stress on certain symptoms. For instance, the pallor of the mucous membrane of the larynx and epiglottis, but as this may also exist in anemia and other diseases, we can not, on this symptom alone, place much reliance. Another symptom, of greater importance, is a granular appearance of the mucous membrane, principally observed between the arytenoids in the posterior commissure. In a large percentage of cases this is the primitive site of the disease, which may be also manifested by a mammillated condition of the membrane. The thickened club-shaped arytenoids with turbinate swelling of the epiglottis are positive evidence of the disease, but before such extensive infiltration takes place we usually have the granular appearance of the mucous membrane of the interarytenoid space, when this portion of the larynx is invaded. It is at this time that radical local treatment is of most avail, especially where there is no disease of the lung, but primary tuberculosis of the larynx is rare.

In treatment, the method of Krause is to be recommended. Removal of a portion of the swollen arytenoid, as practiced by Hering, is adapted to a later stage of the disease and is only palliative.

Dr. Frank Woodbury directed attention to the importance of systemic treatment. In the first place there are certain blood changes which precede infection by the bacillus tuberculosis and which make infection possible. If these can be overcome, either by hygienic means, or by the use of nuclein or guaiacol or by injections of tuberculin, or cinnamic acid, the prospect of successful results is much improved. In the second place, the degree of virulence of the infecting agent must be of great importance. Where patients are suffering from a mild or modified bacillus, it is reasonable to suppose that they would yield more readily to our remedies, and that the results of treatment would be more successful. We are familiar with this in syphilis and, arguing by analogy, we may look for it in our phthisical patients. The personal equation of the patient is also to be considered. In speaking of the benefits of climate, we must not overlook the fact that some patients leave their homes unwillingly and are unhappy and depressed to such an extent as to counteract, to a large extent, the climatic advantages that are so beneficial to others. It is known that women are less frequently benefited than men by a change of residence. One great objection to sending patients away is that they can not receive the same medical attention that they have been accustomed to, and local treatment, except by inhalations and sprays, has to be suspended. Cases have occurred, however, of recovery by climatic treatment alone, without any special medication to the larynx. In the treatment, sunlight, dryness, and purity of the atmosphere occupy the front rank. Transillumination of the larynx by the electric light has been practiced by Freudenthal as a therapeutic measure, with alleged good results; it is based on the observation that tubercle bacilli are killed by light. The daily inhalation of vapors of creosote, lysol, iodin, oil of eucalyptus, etc., have proved beneficial. Where ulceration has occurred the lactic acid treatment with systematic cocainization of the larynx has given the best results. If the lesions are strictly limited to the larynx, the question of extirpation might be considered as in cases of malignant disease.

Dr. E. B. Gleason wished to confirm the statement regarding the utility of orthoform when the nerve-endings were exposed, in relieving pain and enabling patients to take nourishment. He mentioned an instance of a young man who had been almost carried into his office as he was too weak to walk and who had not been able to eat for a week on account of dysphagia accompanying tubercular ulceration of the larynx. He cocainized the larynx and applied orthoform powder, affording such relief that the patient was at once able to drink a glass of milk; and, as the result of insufflations of orthoform powder twice a day, in a week or so he was able to eat lamb chops. The ulceration healed completely under orthoform powder, without any other local treatment.

Dr. E. A. Musson, a visitor, said that she had used Heryng's forceps with greater success than Krause's curettes. In one case she had removed a portion of the bands and arytenoids, about six years ago; the man recovered and is now a lecturer and his pharynx perfectly free from tubercle or other lesion.

Dr. F. A. Packard inquired regarding infection of the larynx from tubercular cervical glands. He had reported a case in which there had appeared to be evidence of such connection.

Dr. B. A. Randall said that he would go one step farther than Dr. Packard and seek the cause of the lymph-gland infection. This would not rarely be found in the ear, of which more lesions are tubercular than is often thought. The adenitis excited is protective in tendency and, even without breaking down of the gland, such infective material may be destroyed; yet latent foci may remain for future development.

Dr. Arthur A. Bliss was particularly in accord with the author of the paper in the view that primary tuberculosis of the larynx is rare, and that, as a rule, it is secondary to lung disease. Many come to the clinic suffering with pulmonary

tuberculosis and also simple chronic laryngitis. The chronic laryngitis furnishes a nidus for the tubercle bacillus and the local infection. He has obtained as good results from lactic acid as from anything. During the past year he has also used Heryng's cutting forceps, previous to its application, in order to remove as much as possible of the infiltrated base of the ulcer. This method is especially applicable to cases where the tissues are commencing to break down. It affords great relief from pain and permits the patient to swallow with less difficulty.

DR. P. S. DONELLAN, in closing the discussion, said that he had seen no case of laryngeal tuberculosis that he could attribute to infection from cervical glands, but he had reasons for believing that in some cases the sequence is directly opposite.

TYPHOID FEVER WITH PHLEBITIS OF LATERAL SINUS.

DR. B. A. RANDALL reported a case of phlebitis of the lateral sinus following otitis media in typhoid fever. The man, of 26, had been unwell since the middle of July, 1898, and was admitted to the Methodist Hospital the following October 15, with the symptoms of typhoid and positive Widal reaction. He had aural involvement in the fourth week, with deafness and slight serous discharge, at times reported puriform on the left but none on the right. He had several superficial boils about the body. One in the axilla contained a half ounce of pus, but there were no rigors, sweats nor pyemic variations of temperature. About the thirty-sixth day he had a typhoid relapse with rose spots, pyrexia and delirium lasting two weeks; then, after two weeks of convalescence, he had pain back of the right ear, with tenderness, redness and edema of the posterior, cervical triangle and temperature of 101.4 F. This yielded in three days without operative intervention, and after a nearly unbroken convalescence he was discharged well, about the one hundred and twentieth day of his disease. He thought that since the general introduction of the cold bath treatment of typhoid fever, there had been an increase in the number of ear cases.

RESULTS OF PASSOW'S OPERATION.

DR. E. B. GLEASON exhibited the tympanic bone of a whale and presented two cases showing the small amount of deformity after radical mastoid operation with permanent post-auricular opening by Passow's method. The opening would hardly be noticed by a casual observer and was scarcely more conspicuous than the scar of an ordinary mastoid operation; being slit-like in character, and situated at the junction of the auricle with the side of the head. Only by pulling the auricle forward did the opening become apparent. Under these circumstances, it was oval and permitted easy inspection of the middle ear, which was covered throughout with non-secreting and apparently normal skin.

He has done Passow's operation four times, and the post-auricular opening greatly facilitated the after-treatment, as the entire middle ear was always within easy reach for inspection and treatment. Skin grafts could be inserted from time to time between the flaps of skin, and thus secure rapid healing. After such an operation the patient or his friends can readily keep the skin lining the middle ear clean and thus prevent dermatitis and recurrent otorrrhea.

Both patients had previously been operated upon by others unsuccessfully, the first, two simple mastoid operations in England, the second a simple mastoid operation, attempted radical operation in Russia and an unsuccessful radical operation in America.

Cleveland Medical Society.

Oct. 13, 1899.

TREATMENT OF CATARRHAL CONDITIONS WITH THE SINUSOIDAL AND OTHER ELECTRIC CURRENTS.

DR. W. F. BROKAW related his experience of over two years, and the treatment of something over 250 cases, particularly in nasopharyngeal catarrh, nasal hyperesthesia, etc. By using the apparatus so that the current can be properly controlled, with pure copper electrodes, and with the technic of the applications carefully carried out, results were obtained greatly superior to any known method. Without seeking to eliminate operative or harsh measures, cautery, etc., the results have demonstrated that about 90 per cent. of such measures can be obviated.

DR. J. H. LOWMAN expressed surprise that the essayist said that atrophic rhinitis yielded as readily as the hypertrophic form to treatment with the galvanic current.

DR. J. M. INGERSOLL had had no experience in the use of the electric current in these cases, but thought that, as occlusion of the nares was frequently caused by exostoses on the septum, it would not yield readily to this treatment. In hypertrophic rhinitis he thought the current would be beneficial. He wished to know the length of time the essayist treated adenoids before pronouncing them cured.

DR. BROKAW, in closing, said that the conclusions from his work in this line were as much of a surprise to himself as they could be to any one else. In regard to the method being beneficial in both the atrophic and the hypertrophic forms of rhinitis, he explained that fact by the supposition that the current restored the normal tone to the vasomotor supply of the nose in each case; that is, increased the circulation in the atrophic form, and decreased it in the hypertrophic form. He said it usually required from three to six months' treatment to clear up adenoids. He admitted that there were some patients who could not be cured by this method, and said the method was very simple and open to everyone to give it a trial.

WHOOPING-COUGH AND RICKETS.

DR. JOHN H. LOWMAN read a paper on this subject.

DR. W. E. WIRT noted that rickets was much more frequent in the eastern cities of this country than elsewhere, no doubt for the reason that the poor are huddled together in much smaller dwellings in those cities. He had not seen so many nor so great deformities resulting from rickets in Cleveland as he had in New York City. He spoke of several cases that he had seen of very marked deformity of the chest due to rickets. At present he has in hand a man 66 years of age on whom he intends to operate for knock-knee. This occurred in youth and remained stationary during adult life, but began to increase excessively following a stroke of apoplexy six years previously.

DR. C. J. ALDRICH described the curious phenomenon of "head-banging" which English authors have pointed out as at times occurring in rickety children. He has seen one such case in Cleveland, in which there was well-marked evidences of rickets, such as an enlargement of the wrist and a dorsal pad on the foot. These children unless restrained, are constantly endeavoring to throw their heads against any hard substance, with the result that their heads are covered with bruises and it is necessary to completely pad the beds in which the children are kept. He spoke of the peculiar rolling motion or nodding spasm of the head that also occurs in these cases and which is, as a rule, associated with lateral nystagmus. He disagreed with the essayist's statement as to preventing deformities by keeping these children off their feet, and had seen cases with greatly curved limbs in children that had never attempted to walk. He noted the persistent asthma and cough of rickets along with other disturbances of the respiratory tract and also the frequent combined fatness and paleness of these children.

DR. O. T. MAYNARD of Elyria said that the classing of rickets among the sequels of whooping-cough appealed to him as being a valuable thought and one explaining a number of cases in his own experience. The want of pure air undoubtedly is one of the causes of rickets, and this cause is practically effective in whooping-cough, as the children suffering from this disease are too frequently, through a mistaken motive of their parents, confined too closely to the house.

DR. B. E. SAGER had been told by a surgeon at the Hospital for Children, at Great Ormsby Street, London, that rickets in England was more prevalent in the country than in London, and gave as a reason that nearly all the best quality of milk was sold in the city.

DR. WIRT asked Dr. Maynard if the milk from Elyria was all sent to Cleveland. He also noted the fact that the deformities, which occur in rickets before the child has walked, are due simply to contraction of the muscles on the soft bones.

DR. I. FRIEDMANN inquired whether mixed races of people are more liable to rickets than the white race.

DR. G. W. CRILE had observed in Cuba, Porto Rico and Mex-

ico, where the people live in extreme poverty, that rickets is the rule among the children.

Dr. L. Reich had observed that many cases of gastro-intestinal disease dated their origin from an attack of whooping-cough.

Dr. N. Rosewater asked whether the essayist had noted the frequent association of urticaria with rickets.

Dr. C. F. Hoover asked the essayist what he thought of Kassowitz's method of treating rickets with phosphorus and practically nothing else.

Dr. Lowman said, in closing, that the discussion had illustrated the prevalent lack of exact knowledge as to the underlying changes that constitute rickets, but the disease certainly would appear to be entirely dependent on the quality of the food furnished the child. He thought that phosphorus should be used in grave cases, but he had not used it in the ones he reported because they had yielded promptly to fresh air, pure milk and plenty of sunshine. The feeding of children on artificial and farinaceous foods, to the exclusion of cow's milk, is beyond question responsible for a proportion of the cases of rickets; even sterilized milk is not as desirable a food as is raw milk. Rickets is very rare in Japan, where children are nursed up to the third or fourth year, and where the houses afford little or no prevention to the free circulation of the atmosphere. The point he chiefly wished to make in his paper was the fact that rickets may develop in five or six weeks in a child sick of any general disease, especially if there is intestinal disturbance that necessitates considerable limitation of food. Such cases in convalescence must be treated entirely differently from those in which there is a simple weakness following acute disease. Therefore it is very important to make a correct diagnosis of the condition.

GALL-STONE OF UNUSUAL SIZE.

Dr. J. H. Lowman presented a gall-stone more than an inch long and three-quarters of an inch in diameter, consisting of pure cholesterin, that had for five days caused grave symptoms of intestinal obstruction in a woman 65 years old. There had been fecal vomiting but no elevation of temperature. Because the stone consisted of pure cholesterin it must have been formed in the gall-bladder, but at the same time it must have passed through the common bile-duct without pain or jaundice, as there was positively no history of either. He did not think it could have ulcerated through because the woman had enjoyed perfect health for many years.

Dr. Hunter Robb was inclined to think that the calculus passed through the common bile-duct during the five days when there were signs of intestinal obstruction.

Dr. R. J. Wenner remarked that the absence of fever would indicate that the obstruction was in reality a reflex ileus.

Quarterly Meeting, Oct. 27, 1899.

ACUTE DILATION OF STOMACH WITH REMARKS ON DILATION OF THE STOMACH IN GENERAL.

Dr. H. W. Bettman, Cincinnati, Ohio, delivered the lecture of the evening on this subject.

Dr. M. Rosenwasser pointed out the fact that the cases reported in the paper of the evening dated, in many instances, as far back as 1850, since which time our ideas of sepsis and of abdominal diseases have undergone a perfect revolution. Probably many of these old necropsies were very imperfetely made. He believed that the distended stomach is often purely secondary to the septic condition, and noted that in some of the reported cases septic foci had been found. Dilation may have caused death secondarily, but not primarily. In the cases reported it seems that collapse preceded the distention, which then could not have been the cause of the collapse. Distention after collapse is very common in septic infection.

Dr. H. W. Rogers spoke of the relation, in his experience, of distention of the stomach to cardiac disease. He noted a case of enlarged heart, with final death from rupture, in which the stomach was found greatly distended, and another case of a young man, addicted to the overuse of alcohol who dropped dead immediately after taking a Seidlitz powder. It is a common thing in the heart disease of old people to find an accompanying dilated stomach; and he wished to know if there was any relation between the two conditions.

Dr. C. J. Aldrich reported a case of enormously distended stomach in a hysteric subject, caused by the patient voluntarily swallowing air in large quantities. In this case he was able to persuade the patient to perform this operation while he was watching. He had seen another case in which he was sure the distention was produced in the same way.

Dr. N. Rosewater reported a case of gastric dilation occurring in a woman 19 years of age, during convalescence from la grippe. Along with the dilation she had quite general tetanic rigidity. In all of these cases of acute dilation large quantities of fluid that contain a great deal of bile are vomited. As bile is very toxic, the question arises whether there is not a good deal of absorption of bile in these cases, with consequent symptoms of collapse. He suggested that in some of them there is suspension of the functions of the kidney, and that the stomach tries to compensate the kidney as an excretory organ.

Dr. N. Stone Scott said that dilation is always a symptom and secondary to the hypertrophy of the stomach wall that follows chronic stenosis of the pylorus. He questioned the desirability of discussing a symptom, as had been done in the paper of the evening, without taking into account the antecedent conditions, and regretted that the paper had not thrown more light on the obscure forms of gastric dilation that are associated with regurgitation of bile.

Dr. L. Reich said that there are many cases of large stomachs not preceded by a stenosed pylorus or hypertrophied gastric wall, as for instance the dilated stomachs of gluttons. Also among excessive beer drinkers, this sort of dilated stomach is not uncommon. These cases can be remedied by reducing the amount of fluid taken and by insisting on a dry diet.

Dr. R. J. Wenner reported a case of a young woman, taken sick ten weeks previously, with all the symptoms of typhoid fever, including positive Widal reaction and also the diazo reaction. During the fourth week, when she seemed convalescent, vomiting of large quantities of yellowish-green fluid began. This was out of all proportion to the quantity of fluid ingested. There was a distinct succussion sound over the lower part of the abdomen. Lavage twice a day for a number of days brought relief, until a distressing tachycardia set in, the pulse running from 140 to 170. Then the vomiting recommenced. The patient is still in this condition and the stomach has been outlined at three-fingers breadth below the umbilicus. He had seen another case of acute dilation in a patient whom he had operated for pelvic abscess. In this case there was a profound septic condition.

Dr. H. W. Bettman, in closing, said that a few years ago he had shared the extreme view of the surgeons that gastric dilation must be preceded by stenosis of the pylorus and hypertrophy of the stomach wall. The cases he had reported, however, had shown clearly that dilation of the stomach very frequently occurs without any antecedent stenosis. He said that we must have a clear conception of the criteria of a disease. This would be about as follows: 1. The conditions which the disease seemed to produce have not existed prior to the onset of the attack. 2. At the necropsy evidence of the disease shall be manifest. 3. The symptoms produced shall seem warranted by the post-mortem findings. All these conditions had been fulfilled in the cases of acute dilation of the stomach that he had reported. As to the date he places almost as complete reliance on the post-mortem findings described by Hilton Fagge in 1870 as he would on a necropsy done before his own eyes. To say the condition is secondary throws no light on it any more than to consider diphtheritic paralysis purely as a part of the antecedent disease. The regurgitation of bile into the stomach is by no means a symptom of dilation, and not infrequently occurs in a healthy individual after somewhat prolonged fasting, and he doubts whether it has any special significance in relation to the conditions under discussion. A certain number of cases of dilation of the stomach have recovered after the operation of gastroplication, which could hardly occur if there had been, as the surgeons maintain, a stenosis of the pylorus. The relation of disease of the heart to stomach dilation is not altogether clear. A number of cases of chronic dilation of the stomach have been reported that lead directly to death, not a few of them occurring suddenly after partaking of an excessive meal, and very often in these cases nothing is found wrong with the heart.

Medico-Chirurgical Faculty of Maryland.

Semi-Annual Meeting, Westminster, Nov. 14, 1899.

THE FACULTY'S CONTRIBUTION TO THE WELFARE OF THE STATE.

DR. EUGENE F. CORDELL, whose subject was "The Medical and Chirurgical Faculty's Contribution to the Welfare of the State," in a review of the career of the Society since its foundation, June 3, 1799, showed how it had rendered important and valuable service in regulating medical practice, in ridding the state of quackery, in introducing vaccination, in advice to the authorities, in procuring needed legislation, in introducing sanitary reforms, and in various other ways.

HOME TREATMENT OF CONSUMPTION.

DR. WM. OSLER, in a paper on this subject, said that of the cases seen by physicians, 95 per cent. are unable to afford treatment away from their homes in the city. Of the 8000 to 10,000 cases in Baltimore, few live under a strict régime. Arrest or cure is a question entirely of nutrition, and the essential factor is to improve the resisting forces of the body so that the bacilli can not make further progress, but are hemmed in and either effectually prevented from breaking through the intrenchments, or in rare cases are forced to capitulate.

Of the measures by which the general nutrition may be encouraged and improved, the first and most important is fresh air. For more than two centuries the clearer-headed members of the profession have known that an open-air life sometimes cures a case of phthisis. One of the earliest and most interesting cases of this kind is reported by John Locke, the philosopher, in his "Anecdota Sydenhamiana." The quality of the fresh air in our large cities may not be very good, but it is the best a large proportion of our patients can possibly get to breathe, and it is much better than the atmosphere of the overheated rooms in which a majority of them live. He tells patients to take the almanac and count off the hours of sunshine. In winter cut off two hours in the morning and an hour in the evening, and for the rest of the day be out of doors. If there is no possible arrangement for life out-of-dors, the patient is to be in a room with a southern exposure. The bed is to be moved into the sunshine, with the windows wide open. If there is a balcony or verandah with a good outlook toward the south, it should be arranged for the patient, if not, a shelter can be put up in the yard at a very moderate cost. On a well-padded lounge covered with a couple of thicknesses of blanket, well-wrapped up, the patient sits or reclines all day, coming in only to attend to the calls of nature. Only on blustery, stormy or very rainy days is he to remain in the house. A table can be arranged so that the midday meal may be taken out of doors. No degree of cold is a contraindictation. This continuous open-air life at rest is the most powerful influence we possess to-day against the fever of tuberculosis.

As to the diet, the stomach controls the situation in pulmonary tuberculosis. In any long series of cases the patients who do well are those who take plenty of food. An important cause of the lack of appetite and feeble digestion is the persistent fever, and we often find that as the temperature falls the appetite improves. It is easy to lay down rules, but hard to carry them out. Each case must be dealt with separately, but as large a quantity of food as possible should be given. Overfeeding or stuffing, when possible, should be practiced, and the patient should be encouraged to pay little attention to his subjective gastric sensation. For some time he has been urging patients to accustom themselves to taking raw eggs, beginning with one three times a day and increasing one a week until they take, if possible, twenty or twenty-four a day. Broken into the egg cup, sprinkled with a little pepper and salt, the egg can be readily swallowed without breaking the yolk. It is most important to get the patient accustomed to take the natural foods, milk, cream, butter, meat, eggs and oysters.

The medicinal treatment of cases may be divided into: 1, the use of stomachics, bitter tonics and certain digestives; 2, remedies such as cod-liver-oil, hypophosphites and creosote, the benefits of which are chiefly in promoting nutrition; 3, remedies for relief of symptoms, as cough, pain and night sweats.

A rigid régime, a life of rules and regulations, a dominant will on the part of the Doctor, willing obedience on the part of the patient and friends, are necessary in the successful treatment of pulmonary tuberculosis.

DR. C. S. MILLET, Brocton, Mass., continued the subject with a report of five cases treated by having the patients sleep out of doors. He exhibited photographs of the sleeping quarters of these patients, usually a bed arranged on a platform built out from an upper window and without roof.

RECENT METHOD OF TREATING HYPERTROPHIED PROSTATE BY ELECTROCAUTERY.

DR. W. H. YOUNG described these methods. By recent improvements made in this instrument, the prospects of benefit are very much increased. It is not adapted, however, to all cases, and it is uncertain whether the improvement is permanent. Castration has proved disappointing, and extirpation successful in some.

USE AND ABUSE OF HYDROCHLORIC ACID IN GASTRIC DISEASE.

DR. J. C. HEMMETER, in his paper on this subject, said that digestion can go on for a time without hydrochloric acid. This drug should never be given except after examination of the contents of the stomach, which is not difficult. Either the contents can be removed after a test-meal, or a gastric tube can be introduced and the end then applied to red Congo paper when, if acid be present, the characteristic azure-blue color appears. Dr. Hemmeter is constantly meeting with cases where the acid is being given, although present in normal or excessive amount.

MEDICAL CONDITIONS IN THE PHILIPPINES AND INDIA.

DRS. SIMON FLEXNER and L. F. BARKER, in a paper on this subject, said that at Manila they had not found the ameba coli constantly in dysentery, and on the other hand had found it in the healthy intestines. It had lost much of its supposed significance in this disease. A bacillus was found, believed to be the cause of the disease, and has been isolated from a number of cases of dysentery.

Topeka (Kan.) Academy of Medicine and Surgery.

Oct. 9, 1899.

INDIGESTION.

DR. W. L. WARRINER'S paper on this subject was read by the secretary, the doctor being unable to be present. He classified stomach troubles as: Reflex, functional, and organic. By reflex is meant the condition of the stomach in which its function is impaired by diseases or conditions of the system which exist elsewhere than in the stomach, such as great emotional excitement, violent anger, etc. When this reflex condition occurs in a very nervous person we call it nervous dyspepsia. We meet it in hysteric persons also and in hypochondriacs. Where the functions of the stomach are disturbed the condition is usually called acute or chronic indigestion or dyspepsia. The third class—organic diseases—is divided into inflammatory and non-inflammatory, the former including acute and chronic gastritis or catarrh while non-inflammatory includes such diseases as dilatation, ulcer, new growths, etc.

He spoke in particular of the treatment of some of these troubles. He does not treat gastritis with acids or alkalies, as most authorities suggest; and asks how we can tell when to give an acid and when to give an alkali, and whether before or after meals. He spoke of several authorities who contradicted each other in the use of such remedies.

The cause of nearly all functional and inflammatory conditions is improper diet. In the treatment of all kinds of stomach trouble we should carefully regulate the habits of the patient and a rigid diet should be written out for each. He reported a case of exophthalmic goiter which had been unsuccessfully treated, but which recovered as soon as he treated the cause, which he considered was stomach trouble. Micro-organisms play a prominent part in stomach disorders.

He relies for the medical part of the treatment almost entirely on antiseptics, together with proper regulation of diet, prohibiting all starchy foods on account of the fermentation, and having the patient eat sparingly and keep the bowels regular.

DR. IDA C. BARNES reported a case of exophthalmic goiter similar to the one referred to above.

DR. HALL spoke of the indiscriminate use of digestants by the patients themselves.

DR. B. D. EASTMAN emphasized the fact that most of the cases of indigestion were caused by bolting the food. No

liquids should be taken while food is being masticated. He has found taka diastase very beneficial.

DR. L. H. MUNN said the patient should be fed well.

DR. C. E. MUNN told of his experience with such cases during his thirty-seven years with the army, and said: Eat everything, use no medicines, drink abundance of cold water and take plenty of exercise. At first the patient should be starved a day or two until he is hungry enough to eat.

CANCER OF STOMACH.

DR. IDA C. BARNES reported cases: The first was one of cancer: Mrs. R., aged 60, lost 40 pounds since January, 1899. She had lost her appetite, and complained of intense pain in the region of the stomach. Two brothers and sisters had died of cancer. Slight biliary reaction of the urine existed, and there was a large sensitive tumor in the epigastric region. The treatment was tonic and dietary, with morphin to relieve pain. The Doctor thinks she suffered more than she would admit for fear of having a diagnosis of cancer made. Later a "specialist" promised to cure her by treatment through the eye, and at last the "divine healers" took her in charge, but she died a few weeks ago.

DIPHTHERIA.

DR. BARNES reported another case, of diphtheria, where one injection of 1500 units of antitoxin was sufficient, and the membrane disappeared in four days.

DR. C. E. MUNN spoke of the enormous decrease in the mortality from diphtheria in Denver Col., and said that undoubtedly such a good record was made because nearly every physician of Denver used the antitoxin freely and fearlessly. It is criminal to neglect its use at an early opportunity.

Nov. 6, 1899.

CHICKEN-POX.

DR. T. W. PEERS read a paper on this subject, and especially discussed the disease now epidemic in this city. He spoke of it as chicken-pox or possibly a light form of smallpox. He referred to Holt's statement that chicken-pox is not confluent, while here the eruptions are confluent. There have been no deaths in about 300 cases occurring here. He also gave a detailed account of the symptoms and onset of the disease. There are slight prodromic symptoms and about the fourth or fifth day the eruption, which has a shot-like feeling, appears, but on pinching the papule that sensation is lost. The eruption comes out in crops, forms vesicles, some of which are umbilicated. Desiccation occurs and the scabs form without pustulation. Some have fever throughout the disease and others have it until the eruption appears. The cases usually last from four to six weeks.

DR. B. D. EASTMAN said that the three important symptoms or points are lacking to make the diagnosis of smallpox in the patients here—too long a period of succession in the eruption, no proper umbilication and no secondary fever.

DR. J. E. MINNEY thought the symptoms those of malignant chicken-pox.

DR. D. LONGSHORE asked if there was any odor present in these cases, as in smallpox, and was answered negatively, except as to a negro man who died, and who had a cadaverous odor, but he expectorated large quantities of pus which probably caused the odor.

CASE OF EYE TROUBLE.

DR. J. E. MINNEY reported a patient with eye trouble, failing vision, perverted vision; glasses did not help him. Ophthalmic examination showed muddiness of the vitreous, retinitis. He suspected specific trouble. The urine analysis showed a heavy deposit of phosphates. He also had optic neuritis. Treatment was nux vomica, with no benefit. On taking him off the iodids, the phosphates cleared up. Possibly some brain lesion exists.

Cincinnati Academy of Medicine.

Nov. 6, 1899.

ABSCESS OF NASAL ORIGIN.

DR. DERRICK T. VAIL presented a patient with abscess in the region of the tear sac, of nasal origin. The patient, aged 36, presented a tumor which had all the classic appearances of a case of acute purulent dacryocystitis. The swelling began about ten days ago; it increased rapidly to its present size; the skin took on the peculiar bronze coloration such as is seen in abscess of the tear sac. The location corresponded exactly to the anatomic situation of the sac; there was and is now fluctuation, tenderness and pain present. The temperature is 100. Epiphora has been present from the outset. Nevertheless, it is not an abscess of the tear sac. This was positively proven by passing a No. 1 Bowman's probe down through the nasal duct; also by forcing a stream of normal salt solution, by means of Anell's syringe, through this duct. The water went through readily and came out of the nose in a stream as clear as when injected. Examination of the nose revealed that the middle turbinated bone was enormously enlarged, so large indeed as to press against the nasal septum, and one could see yellowish creamy pus oozing from the middle meatus. This rendered the diagnosis of extrasaccular abscess from nasal origin a tenable one. The man has had syphilis, and the anterior ethmoidal cells and their surroundings have become the seat of necrosis, probably as the result of the specific disease. In place of the pus breaking through the nose, as it usually does, it has burrowed outward under the tear sac, stripping up the periosteum and causing a subperiosteal abscess.

The Doctor stated that it was manifest that slitting the canaliculus and passing a probe down through the duct would not reach the seat of trouble. He proposes removing the anterior portion of the middle turbinate bone and curetting the ethmoidal cells. The man will in addition be placed on a vigorous antispecific treatment.

FIBROCYSTIC TUMOR OF UTERUS AND OVARY.

DR. GILES MITCHELL presented a specimen of this condition. There was irregular menstruation about three years ago, both menorrhagia and metrorrhagia. The diagnosis made at that time was small fibroid tumor. About a year ago the menstruation became regular, and until six months ago the patient had no trouble in this regard, but considerable discomfort due to the size of the tumor. Since a year ago the tumor has been growing very rapidly. During the last four months she has been complaining greatly of abdominal pain. The operation itself presented considerable difficulty. The omentum was very adherent to the tumor and had to be ligated. The hemorrhage was very severe. The principal complication was the adherence of the bladder wall to the anterior portion of the tumor over a very wide area, and this was separated with the greatest difficulty, but without injury to the viscus.

EXTENSIVE OSTEOMYELITIS OF VERTEBRAL COLUMN.

DR. C. E. CALDWELL presented specimens from a male, aged 30, a porter. When admitted to the hospital, his chief complaint was pain in the back and chest. The family history is negative. He admits venereals and alcoholism. Five months ago he hurt his back trying to lift an ice-chest. Physical examination on admittance was entirely negative. He was placed in the neurologic ward and regarded as a malingerer, as he had no symptoms of localizing character. He was carefully examined by the neurologists of the hospital, at intervals, but he had been in the house many weeks before the chest wall was found to be deformed. At this time there seemed to be a sudden collapse of the chest wall, probably due to a letting down of the bodies of the vertebræ. The remarkable feature of the case was the sudden and unexpected onset and the signs of organic disease. Two and a half months after the sudden onset he was transferred to the orthopedic service and a plaster jacket applied; this, however, was soon removed, owing to the great discomfort it occasioned. Two months after compression, paraplegia developed. The onset of the latter was sudden. The legs were completely paralyzed and the bladder was involved. Decubitus developed a few weeks before dissolution.

Post-mortem showed that the sternum bulged, with collapse of the chest walls. Muscular development was poor. A few small tubercular points were found in the lungs, with adhesion of the pleuræ, especially on the left side. The heart, liver and spleen were normal on macroscopic examination, the kidneys pyonephrotic, the right especially so. On opening the latter a large amount of pus escaped, and in it were found little hard round bodies, probably of calcareous nature. On the back was a large bed sore exposing the spinous processes. The vertebral bones were absolutely rotten, and the bodies of the vertebræ could be easily broken up with the finger. No tubercles

could be found either in the vertebral column or in the cord. Microscopic examination of the latter has as yet not been made. The ribs were so softened that they could easily be cut with a knife. The thick portion of the ilium and the acetabulum on the left side is also greatly disintegrated. The etiologic factors are obscure. He gave as an opinion that influenza might be the underlying cause.

Philadelphia Pathologic Society.

Nov. 9, 1899.

ILLUMINATING GAS POISONING.

DR. P. W. DARRAH, by invitation, read a paper, the basis for which was a series of experiments made on dogs. The different constituents of illuminating gas are, principally, hydrogen, carbon monoxid, illuminants, carbonic acid, and oxygen. The principal toxic ingredient is carbon monoxid, owing to its destructive power exerted on the hemoglobin of the blood. A dog thus poisoned first suffers from dizziness, later unconsciousness, with finally death. No convulsions were observed. In the efforts made to bring about resuscitation, strychnin and other stimulants were given, without relief. Hydrogen peroxid was also tried, injected into the tissues and also intravenously, but proved of no avail. Blood transfusion was next tried and the animals recovered. In control animals, death ensued. In some of these latter death did not occur for several days. The animals from which the blood was taken recovered. His conclusion was that it might therefore be said that the introduction of hydrogen peroxid, or normal saline solution in cases of poisoning by illuminating gas does no good, while transfusion of blood brings about recovery in such animals as dogs.

DR. H. A. HARE was of the opinion that the transfusion of blood in poisoning by illuminating gas was not usually feasible. He could not understand why the use of normal saline solution used in the same manner would not bring about the same results as that of blood, by diluting the poison in the blood-vessels. In some experiments made several years ago by Dr. Edward Martin and himself, they found that the inhalation of oxygen in concentrated form also proved beneficial in such cases.

CARCINOMA OF STOMACH, INVOLVING PANCREAS, OMENTUM AND LIVER.

DR. A. E. BLACKBURN presented a specimen of this condition. The patient was a man 54 years of age. His history was negative. For five months previous to his death he had complained of weakness, nausea and vomiting, constipation, and tenderness over the abdomen, most marked over the epigastrium. Nodules could be felt in the right hypochondrium. No jaundice had occurred. Autopsy revealed the body of a man much emaciated, the abdomen containing about 1½ pints of fluid. The heart was in systole; the bile-duct patulous, the gall-bladder distended, the pancreas enlarged, the omentum thickened and studded with nodules, and there was congenital absence of the left kidney. Examination of the stomach showed thickened mucosa with cancerous infiltration. The liver cells also showed many evidences of infiltration.

CEREBROSPINAL MENINGITIS.

DR. F. A. PACKARD exhibited card specimens from a case of this affection.

DR. SIMON FLEXNER said it was interesting to observe how, from time to time, different writers have shifted their position in regard to the specific bacteria as the causative agent in this affection. In one epidemic he found that the pneumococcus was the micro-organism principally met with, while in another series the diplococcus intracellularis was found.

ENDOPHLEBITIS.

DR. ARTHUR V. MEIGS presented card specimens from a case which he would designate as one of endophlebitis, in the same sense as the word endarteritis is used. The vessel was removed from a localized area found in the foot. Microscopic section showed a condition he had never before seen. The patient was a man of 29 years, and the year before had suffered from syphilitic infection. On examination the vessel was found hard to the touch and pulsation was distinctly seen. An incision was made on it, and a portion of the vein removed. He was certain it was a vein because venous blood escaped from the cut ends. The most characteristic change is the marked overgrowth of the intima which almost obliterates the lumen of the vessel. Thickening of the muscular layer has also occurred to some extent. Another peculiarity was observed in the sections, and that was the appearance of bodies resembling a bunch of earth worms. This he had not met with before. Degeneration of the heart muscle was also present.

DR. ALFRED STENGEL stated that in the specimen presented the process had extended further than any he had ever seen. He had in one case seen endophlebitis which might have resulted from syphilis.

DR. W. M. L. COPLIN, in a study of diseased condition of the blood-vessels occurring during gangrene of the leg, found that in most cases much proliferation of the endothelial cells had been found.

CARCINOMA OF DUODENUM.

DR. M. H. FUSSELL exhibited a case of primary carcinoma of the duodenum. The autopsy showed adhesions of the pleural surfaces with chest walls. Although a murmur had been detected on examination, there had been no lesion of the heart found post-mortem. The heart was flabby and pale.

RETROPERITONEAL ENDOTHELIOMA.

DR. J. D. STEELE exhibited card specimens from an endothelioma occurring retroperitoneally. The patient was a child of 4 years, who had been well until a year preceding its death. Six months before death an enlargement was found in the abdomen, the tumor occupying the entire left side of the abdomen later in the disease. At the autopsy metastatic growths were found. The center of the mass was cheesy, while the outer surface was smooth. The tumor was pressing on the left kidney, which was flattened. Some of the blood-vessels were devoid of the appearance met with in case of carcinoma. Many of the cells had an oval nucleus, and karyokinetic figures were seen. Hematoxylin brought out the characteristic appearance better than did the Van Gieson stain.

Detroit Academy of Medicine.

PLEA FOR EARLIER DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

DR. GEORGE DUFFIELD read a paper with this title at the last regular meeting of the Academy. The paper gave in detail the pretubercular signs, i. e., before the tubercle bacilli can be found in the sputum, by which a diagnosis should be made. Among these special stress was laid on: 1. The facial expression: the bright clear eyes, the whiteness of the skin, and the deep red of the mucous membrane of the lips. 2. Inspection of the chest: the poorly-developed chest, especially in the antero-posterior diameter, the sloping shoulders, the wing-like position of the scapulæ so well seen in the tendency to stoop. 3. The early auscultatory signs which careful examination will usually reveal. 4. The condition of the circulation, which Von Ruck considers of more importance than the temperature, especially the increase in the pulse-rate late in the day and the accentuation of the pulmonic second. 5. The most important point in the early diagnosis, however, is the use of the watery extract of the tubercle bacillus (Von Ruck). One-tenth of a milligram hypodermically will produce a rise of temperature, highest in the early stages but gradually lessening as the disease advances. No reaction occurs in the healthy individual. Its use is both safe and positive, but unnecessary when the tubercle bacilli are found in the sputum. Details of the use of this watery extract in the treatment of thirty patients in various stages of phthisis showed improvement in all, but especially in the incipient ones.

The discussion brought out the fact that the serum treatment of tuberculosis had not yet proved itself of any real merit, in spite of all that had been done with it, and that we had made no improvement over the hygienic methods of our medical predecessors.

Kansas City Ophthalmological Society.

At its annual meeting, November 13, this Society elected the following officers: president, F. B. Tiffany; vice-president, LeRoy Dibble; treasurer, F. G. Murphy; secretary, F. F. Reyling. Dr. Murphy reported a case of paralysis of the external rectus of the right eye, by an injury to the sixth nerve the result of a fall fifteen years ago, in a man 19 years of age.

Dr. Burke reported a case of blindness in a boy of 7 years, from papillitis. Dr. Tiffany reported a case of blindness, bilateral, from embolism, in a man of 50. Dr. Murphy also read a paper on the injurious effects of books on the eyes. He said that the curved lines, with one's inability to prevent light reflections entering the eyes and the long lines used in our textbooks were injurious to the eyes. He advocates having the lines run parallel with the binding so that the lines will be straight and books could then be properly lighted by leaving the light come from the side.

Thirteenth French Congress of Surgery.

OPEN SURGERY—A CIEL OUVERT.

PROFESSOR PONCET'S opening address, on this subject, proclaimed the advantages from every point of view of large incisions, extensive loosening of adhesions, counter-openings, resections of bone, drainage, the operator master of his field, able to see and know what he is doing, completing his task much more rapidly and without hesitation, and rendering the operation as little serious as possible. Research has established that no method of dressing a wound prevents the penetration of microbes, but as osmosis and capillarity, drainage and absorbent dressings are drawing the inevitable serous or sanguino-serous exudations outward, there are no stagnating fluids in closed cavities, and hence the microbes do not find favorable conditions for their development. Poncet therefore advocates draining all wounds, even the most aseptic "fluid secretions produce more or less tension and pain, and by their pressure on the tissues a tendency to inflammatory accidents, even if they remain aseptic."

TOTAL ABDOMINAL HYSTERECTOMY.

RICARD'S address gave the statistics of this operation in case of fibromyomata as 1.232 with 9.65 per cent. mortality, and of supravaginal hysterectomy as 1.058, with a mortality of 4 to 4.5 per cent., proving the evident superiority of the subtotal operation. As to cancer of the uterus, Bigeard's statistics, collected from all sources, show a mortality of 17 to 20 per cent. after vaginal hysterectomy, while Auclair's thesis mentions 146 cures and 45 deaths after total abdominal hysterectomy or a mortality of 23 per cent., which improved technic will undoubtedly reduce. In respect to recurrence, Terrier and Olshausen report recurrence in 70 and 75 per cent. of the cases treated by the vaginal route. Bouilly has no survivals to date. Byrne has only 12 per cent. surviving out of 163 thus operated. Irish, on the other hand, has five patients on whom he performed laparohysterectomy over three years ago in good health since, out of nine. Only two of the others died from recurrence. Ricard's personal experience is nine cases, all but one absolutely inoperable by the vagina; the culs-de-sac invaded and the broad ligaments infiltrated. Two of these patients have been seen a year since the operation, in health. One died from septicemia, the ureter was involved in the neoplasm and was lacerated during the operation; recurrence in three in six months; the rest too recent to be mentioned. He rejects vaginal hysterectomy as merely palliative at the best, and the possible existence of a pelvic adenopathy removes every trace of justification for it. Terrier remarked that his mortality had fallen from 22 per cent. in 1896 to 8.45 per cent. of 59 total abdominals in 1899. He had three deaths in 15 cancer cases, with three deaths since; 5 recurrences and 2 suspicious indurations. Quénu confirmed the benignity and superiority of the supravaginal by 72 of these operations in succession, without a death. He reported three deaths in 100 total or subtotal abdominal hysterectomies for fibromyomata or severe salpingitis. Richelot took up the cudgel in behalf of vaginal hysterectomy against Ricard's sweeping condemnation, mentioning that he has only had 6 deaths out of 95 patients thus treated, and has survivals of nine to twelve years. Tuffier advocates retaining the ovaries whenever possible, and is urging more general adoption of hysterectomy for acute puerperal infection, as already noted in the JOURNAL (p. 541). Villar recommends giving ovarian extract after abdominal hysterectomy. Several emphasized the urgent necessity of publishing the histologic details of the uterus and ganglia in operations, to serve as a basis for establishing the indications for intervention.

TUMORS OF THE BONES.

One conclusion dwelt on was the necessity of extremely extensive resections in these cases, far up in the sound bones. Pantoloni extolled the advantages of Roux' Y- anastomosis in surgery of the stomach: sutures only; no button; stomach easily emptied; no possibility of reflux of food into duodenum; no reflux of bile into stomach, while patients are able to eat from the first. Doyen described his modification of the Murphy button, which consists in hooks on each part, which hold them firm without ligatures or stitches, thus much shortening the length of the operation. He also exhibited his new forceps, which contains a knife: each branch of the forceps is introduced separately through a buttonhole in each of the organs to be anastomosed, and when the sero-muscular-serous sutures are finished, the knife is sprung out of its sheath and an opening cut between them, after which the forceps are removed and the buttonholes sutured.

French Association of Urology.

Fourth Annual Session, Paris, Oct. 19 to 21, 1899.

ESSENTIAL HEMATURIA.

MALHERBE and LEGUEU, in addresses on this subject, denied the existence of an essential hematuria; it is always secondary to a general toxic or infectious cause or a renal affection. There is no medical treatment; surgical intervention should be restricted to a copious renal hematuria rebellious to ordinary measures: first an exploratory incision, and if there are no evidences of cancer, tuberculosis or other destructive lesion, this operation will prove sufficient in most cases, with secondary nephrotomy in the rare exceptions. If the kidney is found movable on nephrotomy, then nephropexy is indicated.

GUYON added two new observations of recurring hematuria during pregnancy to the ten on record. In one there was cystitis and in the other the kidney involved was hypertrophied, and tuberculous in one of Treub's cases.

DESNOS reported five cases of hematuria in gout coinciding with exacerbations, but in each a calculus was found on nephrotomy or expelled spontaneously.

POUSSON called attention to the possibility of retention from a valve closing the lumen of the ureter, causing hematuria as in a recent observation of his.

ALBARRAN observed that since attention was called, in 1897, to the probable renal etiology of hematuria, not a single case of "essential hematuria" has been published. He communicated an observation of chronic hematuric nephritis, the seventeenth on record, almost all unilateral, and warned against the danger of hemorrhage in the course of nephrotomy in these cases, and also when the tampons are removed in case the kidney is not sutured at once.

BOURSIER remarked that uric acid alone may induce hematuria in well-to-do, gouty, arthritic subjects or their children, and that the paroxysmal, periodic hematuria of poor children can be traced to certain special digestive or nervous disorders which generate oxaluria and hence calcium oxalate crystals, which in turn produce the hematuria.

HAMONIC mentioned five cases in which the hematuria preceded the clinical manifestations of renal tuberculosis or cancer, two to five years.

GUIARD described his successful treatment of a case of calculus of the prostate by inserting a small lithotrite and crushing it *in situ*, removing the débris with a No. 1 lithotrite until the pocket was entirely evacuated. Not until this was accomplished was the dust washed out, with copious irrigation through a fine two-eyed sound in silk. The next day the patient was able to return to business.

A number confirmed the great value of Kotanyi's test: the lower freezing-point of urine, or cryoscopy, in estimating the excreting function of the kidney. "With scarcely any trouble it indicates with mathematical accuracy the quantity of the molecules eliminated, independently of their weight."

THE PALACE of the last khedive at Helouan has been converted into a large sanatorium with accommodations for seventy patients, the first in Egypt. The *Archives Orientales* states that it will be opened in November with Dr. A. J. Bentley of Cairo in charge.

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SATURDAY, NOVEMBER 25, 1899.

SEPTIC FEVER AND TYPHOID INFECTION.

When the attention of physicians was first called to appendicitis as a common malady, it came as a surprise that this ailment, which is usually supposed to be most acute in its manifestations, could by any possibility produce symptoms which would mislead the practitioner into a diagnosis of typhoid fever. Yet our increasing knowledge of the subacute and chronic conditions of appendicular inflammation and of typhoid fever has proved to us that very great skill is sometimes required to make this very necessary differential diagnosis. So, too, it has not uncommonly happened that tuberculosis of various portions of the body, notably of the lungs and peritoneum, has been mistaken for typhoid fever; and the frequency with which malarial infection is so mistaken is positively startling.

Nor should we forget also that ulcerative endocarditis, cerebrospinal meningitis and subacute ileocolitis may cause an erroneous diagnosis. That this error continually occurs is proved by the cases which have been reported by those physicians who are frank enough to be willing to publish their errors for the benefit of their professional brethren. And that they have been justified in making such errors at times is proved by the character of the men who have made them; since often the skill of the physician who has made the mistake has been beyond reproach.

Attention has been again and again called to this subject by medical writers of the last two or three years, particularly by Keen[1] and by Hare[2], and our attention is once more called to it by the report of a case recently made to the Section in Otology and Laryngology of the College of Physicians of Philadelphia, by Dr. C. H. Burnett, one of the pioneers in otology in this country. The case was one of suspected typhoid fever, which was shown to be due to acute catarrhal otitis media. At first glance, it seems almost impossible that any physician could possibly have been misled by a catarrhal otitis into the diagnosis of typhoid fever. Yet the presence of fever, of debility, or general wretchedness, of simultaneous diarrhea and other symptoms of infection make those of us who have had experience recognize that, while such an erroneous diagnosis ought not to be made, such an error is very readily fallen into if the physician is not on his guard. It would seem that a physician called to a case of obscure fever must on the one hand never forget the possibility of typhoid or malarial infection, and on the other, be on his guard lest he be too easily led into the belief that the symptoms present are due to one of these infections when in reality they are due to some other cause. Such opportunities for error can be put aside if in doubtful cases the physician will insist on being allowed a period of several days for the observation and study of the particular case to which he is called.

[1] Surgical Complications of Typhoid.
[2] Medical Complications in Sequelæ of Typhoid Fever.

THE NEUROTIC FAMILY ELEMENT.

It is unfortunate that data on the relative importance of the factors composing the neurotic family history is so conflicting. Observers still hold very divergent opinions on the value of nearly every sign of degeneracy. The lack of unanimity in this respect is still more strikingly in evidence in estimating the clinical significance of the so-called degeneration stigma, both in the antecedents and in personal history of the individual patient. The decision of the value of individual degeneracy must rest largely on the neurologist and psychiatrist, who have often been accused of too much zeal and enthusiasm in placing excessive stress on degeneration-stigma in the prognosis and treatment of nervous diseases. However true this criticism may be, it is certainly far from being of general application, for many of the German neurologists and alienists, such as Sachs and Oppenheim, discourage the prominence given degeneration-stigma by English, Italian and French authors.

As to what elements in the family history are to be judged neurotic, depends in no small measure on the observer's instruction and clinical experience. Some writers seem to hold that only the most pronounced degenerative nervous affections, as the insanities, epilepsy, and hysteria, should be considered in case taking. Others, equally insistent, include all abnormalities, tumors, tuberculosis, and even premature aging and death; and, in short, they embrace all that marks the family subnormal in vigor of mind or body. The two extreme views are found about equally common in neurologic literature. Clinical experience not infrequently shows

that in whatever light the subject of family degeneracy will be finally viewed, many with nervous diseases recover, although possessing marked family as well as personal evidence of degeneracy; such patients also recover nearly as promptly as those showing a cleaner history. Statistics can be of little value in settling the matter of the neurotic family history, until a larger number of cases are collected in which both the absence as well as presence of the several factors are plainly stated. The neurologist is intuitively aware that degeneracy in the individual case is frequently much greater than he is able to obtain from the patient or his relatives; hence, his stress on that which he is actually able to prove.

Although there exists much doubt in regard to the desirability of counting all the possible family diseases as forming a neurotic element, thus placing it nearly on the same footing as the present mooted question of degeneration-stigma in the individual patient, yet careful consideration of both is absolutely essential in forming an opinion of the relative weight of the *predisposition* and *immediate excitant,* a point which the experienced clinician justly regards as the keystone to prognosis and treatment of any given nervous disease. It is interesting to note, in corroboration of this view, that the older and more experienced neurologists insist more strongly year by year that in the so-called functional neuroses, the neurotic predisposition shall be given more attention than the immediate excitant. There can be but little doubt in the minds of all giving the matter careful attention that the great pendulum of psychiatric research is slowly swinging toward the renewed study of the hereditary instability of the cerebral cortex, and the present day agitation of psycho-physical methods in psychiatric science is a fair index of this tendency.

ALCOHOL AND MISREPRESENTATION.

It is dangerous to say anything in favor of alcohol. This is not because it offends the temperance advocates. Stirring them up does no harm except, in certain circles, to the person thus offending. The peril lies in the ill-considered zeal of the alcoholists, if one may so call them. The slightest fact or statement favoring the use of alcohol as a beverage or admitting its possible value as a food is no sooner delivered than it is seized upon, nursed, dressed up and transformed so that its parent can hardly recognize it but for the label of his name, which, if it carries any authority, is studiously retained to give him, it may be, a bad eminence as the author of what he did not say, but can only vainly repudiate. Not long since we[1] had occasion to notice the revamping of some ten-year-old statistics of no special authority, and passing them off as if just endorsed by the British Medical Association. The rather recent experiments of Atwater, which were made under special conditions to exclude everything but the one question of the heat and energy-producing action of alcohol in the human body, have been published and quoted over and over again as showing that it is in all respects a valuable food and not in any way deleterious to the system. The fact that these experiments had no reference to the action of the agent on the circulatory or nervous systems, which are by far its most important effects, is never mentioned. The single truth that alcohol is consumed in the body, producing heat and energy, proves no more that it is a useful food, as one of Professor Atwater's colleagues says, than would the fact that gunpowder burns up, producing heat and energy, prove it a profitable fuel for the kitchen stove. There are more things to be considered in relation to this question than appear to be dreamed of in the philosophy of most people. The latest example of misuse and misrepresentation in this special way is brought out in the suit started against certain advertising liquor dealers, by a New York physician who recently read a paper on alcohol before an eastern medical association. Though many things reported in the paper were distinctly enough favorable to alcohol as a beverage and a medicine, the commercial instincts of the dealers could not, it appears, let them go undisturbed or in their normal connection, hence, the libel suit[2]. We would advise physicians and investigators who write on this subject to cultivate the greatest conciseness and exactitude of expression, to so word their communications as to preclude the possibility of misrepresentation or misconstruction, otherwise there is no telling what intellectual offspring they may be called on to father.

[1] JOURNAL, October 14, p. 988.

"COVERING" IN OHIO.

The secretary of the Ohio State Board of Medical Examiners has raised a question that might well engage the attention of other officials, whose duty it is to enforce medical practice acts. He finds that in his state there are a great many unlicensed practitioners associated with those who hold licenses, and he has asked the attorney-general for an opinion as to the liability under the law of these unlicensed associates and whether the license of those engaged in this "covering" practice can be revoked. There is some doubt among lawyers whether the statute covers these cases. If not, it should be amended, as it furnishes an open door to quackery in the co-operation of unscrupulous licentiates, and if these latter can not be reached there is no remedy. This practice of "covering" has been a serious question in England, but it is doubtful whether it is or has been as serious there as it is likely to be here in case an imperfectly-drawn-up statute leaves for it a loophole. This is a matter worthy of the attention of legislative committees of medical societies elsewhere than in Ohio.

SHOULD PHYSICIANS GIVE BONDS?

A West Virginia paper makes the suggestion that physicians as well as lawyers should be obliged by statute to give bonds for the faithful performance of their

[2] JOURNAL, November 18, p. 1303.

duties in the practice of their profession. It says: "In this State justices of the peace have to bond, and so do ministers of the gospel, and we can not understand any good reason for the other profession to be excepted from this protection to the public." The idea is a new one and the editor of the journal quoted might, we think, claim a patent on it. If physicians are compelled to give bond they might in justice demand that their patrons also give bonds, for there is no class that suffers more from the financial irresponsibility of others than physicians. We would respectfully suggest such an amendment to the proposed statute. The practitioner of medicine could stand the burden better were such an equitable system of mutual give and take adopted.

BUBONIC PLAGUE.

The fact that the bubonic plague has reached New York need cause no uneasiness. Every preparation had been made for such an occurrence and the health officers immediately took extreme precautions to guard against its possible dissemination. Naturally not a little alarm has been felt by the nervous ones, and some pessimistic reports have been started by the alarmists, but without reason. The plague is a disease that can be controlled as well as any of the contagious diseases, in fact, better than many. This applies, however, only under certain conditions. If it should get a foothold in the crowded and filthy parts, in any of our great cities, it might then become a serious undertaking. It would involve not only the isolation of human beings, but the prevention of infection by rats and mice, which seem to be susceptible to the disease and a great cause of its spreading. If these pests become infected, then there would be a more serious problem to attack. According to Professor Calmette's address at Paris recently, on this subject, several months or even years might elapse after all apparent danger had passed, and the disease might break out again, infection coming from the rodents from which the disease had never been eradicated. These and other peculiar characteristics of bubonic plague are well known to the quarantine and health officers of New York and other ports of entry, and they may be depended on to stamp it out before it can reach the slums, or the underground associates of human beings.

GASTRIC ULCERS IN THE COURSE OF PNEUMOCOCCUS SEPTICEMIA IN THE GUINEA-PIG.

The experimental lesions caused by the pneumococcus may present a fibrinous and hemorrhagic type, the latter being the result of the most virulent form of the microbe. In the rabbit, for instance, successive inoculations produce in the beginning a fibrinous reaction, later, when the microbes have passed through several animals, a hemorrhagic reaction. The same may be brought about in the guinea-pig, which is a refractory animal as regards the pneumococcus. The hemorrhagic lesions of the pneumococcus infection in the rabbit are observed especially in the suprarenal capsules, genital organs, the surface of the large intestine, and in some cases the wall of the stomach. When the ecchymoses in the stomach are situated in the mucous membrane, the action of the gastric juice rapidly transforms the small hemorrhagic areas into ulcers. This was demonstrated in three cases by Bezancon and Griffon[1]. The microscopic examination of the ulcers shows that the process is confined to the mucous and submucous coats. There is not much, if any, cellular infiltration about the floor and borders of the ulcers. The floor may present blood pigment, and the submucous vessels are dilated. These results are interesting, because they would appear to throw a little light on the obscure pathogenesis of gastric ulcers.

PHYSICAL DEVELOPMENT IN AMERICA.

Not long since the JOURNAL noticed the increasing girth of the average American as reported from tailors' measurements. These apparently gave evidence that at the present rate of progress the future Yankee would be of Falstaffian proportions, which, as one would naturally prefer to be an Apollo rather than an exaggerated Bacchus, is not in all respects satisfactory. We can take some satisfaction, therefore, from the recently-expressed opinion of a distinguished Italian authority, Professor Angelo Mosso, who finds Americans far better developed and stronger than his countrymen, and who speaks of physical education being carried here to perfection. As an Alpinist of some reputation, as well as noted physiologist, Professor Mosso's opinions on this subject, however flattering, are entitled to respect, and we may comfort ourselves accordingly. Still another authority, not as high in medicine but undoubtedly a competent observer, Mr. Julian Ralph, has also noted the contrast between English and American women and children, the latter being, according to him, much better developed and more healthy than the former, the English boys being apt to be "runts" in comparison with the American boys at the same age. The stature of American women and their superior health is also, he says, a matter of astonishment to foreigners. When we read the jeremiads of certain medical writers in this country the above may come to us as a sort of comfort; we may not be as bad off as we had thought. The question arises, however, whether in our improving development we are to see a product like Hawthorne's celebrated description of the British matron, a result not to be earnestly desired. Let us hope that climatic and other influences, while perfecting the race, will also save us from any altogether unesthetic results.

CONTINUOUS SALINE IRRIGATION FOR GENERAL SEPTIC PERITONITIS.

The outlook in cases of general peritonitis from whatever cause has in the past been exceedingly gloomy, to state the prognosis mildly. A recent experience, however, would tend to show that with intelligent treatment at the hands of a bold surgeon, the result is not necessarily fatal. At a recent meeting of the Philadelphia County Medical Society, Dr. Ernest Laplace[2] reported the case of a woman suffering from general septic peritonitis, secondary to appendicitis, in which, after the abdomen was opened, adhesions freed, lymph-exudation removed, the appendix resected, through-and-through irrigation of the peritoneal cavity was established, and continued steadily for seventy-two hours, at the rate of

[1] Bull. et Mem. de la Soc. Anat., Paris, 1899, 74, p. 409.
[2] JOURNAL, November 4, p. 1169.

ten pints of normal salt solution at a temperature of 100 F., every fifteen minutes, making a total of 360 gallons. The patient recovered. This case seems sufficiently noteworthy to be deserving of more than passing notice. It may be contended that the patient *might* have recovered with less radical manipulation, but the fact is that she *did* recover under the treatment employed, although death is the rule with other forms of treatment. In the absence of knowledge to the contrary, therefore, a large share of the credit for the fortunate result should be given to the special method of treatment pursued in this case. Irrigation of the blood through intravenous and subcutaneous infusion of saline solution has proved of so much service in the treatment of various toxemic and infectious states, that it seems a most rational step to apply the same principle in the treatment of extravascular conditions. It would thus appear that the continuous irrigation the surgeon has placed in his hands is a resource from which good may be expected in a group of cases in which the prognosis is now ominous, e. g., purulent accumulations in any cavity of the body.

PLAGIARISM EXTRAORDINARY.

We are fearfully and wonderfully made, and this is more true of our psychology than of our physiology. The mysteries of the human mind continually multiply upon us, and new facts are constantly springing up that defy our comprehension or explanation. The aggregate of human intellect seems sometimes insufficient, from the way it repeats itself, and the often-quoted line, "Two souls with but a single thought," seems more than pure poetic license. An apparent instance of this was that of a well-known preacher who was accused of delivering another's sermon, but who successfully defended himself on the ground of unconscious assimilation, or something of the kind. Even in prosaic medicine this forces itself upon us, as one of our esteemed contemporaries realized when it found a few years back, one of its original articles identical with a chapter in a well-known text-book. A still more striking and recent instance is that of the elaborate and excellent monographic chapter on "Operative and Plastic Surgery," in a lately published composite work on surgery[1]. This appears to be word for word the same as that by another author in a similar volume of somewhat earlier date[2]. The unconscious assimilation worked here far more perfectly than in the case of the sermon where the deadly comparison of parallel columns of selected passages was required to show the resemblance; here we have identity of text perceptible at a glance. We can not explain this on any psychologic grounds. The fact transcends our science, but one can suppose if he chooses, the author living in telepathic communication, sharing the same intellectual aura, with his antecedent writer and working his neurons in beautiful unison with him. The difference in date is unfortunate, of course, for this theory, but it is only one of those lacks of coincidence that we must consider as striking as a coincidence would be under other circumstances. Such cases are certainly noteworthy and suggestive of new fields of study of the intellectual and ethical processes in the human brain. Some might think of the latter alone, but in such a case as this, considering the prominence of the earlier writer, one has to see a puzzling problem of intellect also involved. Such incidents, however curious and interesting to the student of humanity, are sometimes inconvenient and expensive to others. In this case the publisher has decided to call in the books already sold, and one of the editors is, we understand, working at his best to supplant the chapter in question by a new one that will not be a repetition of one previously published elsewhere.

[1] Chapter XII, International Text-Book of Surgery. Edited by Warren and Gould. Philadelphia: W. B. Saunders.

[2] Stimson's Manual of Operative Surgery. Philadelphia and New York: Lea Bros. & Co.

POPULAR LACK OF APPRECIATION OF MEDICAL HEROISM.

In the recent mortality reports of medical officers of the Government, we read that Dr. W. R. McAdam[1], assistant-surgeon, M.-H. S., died October 12 at Key West, from yellow fever. This and many similar instances prompt the question: What proportion of the general public knows anything of the meaning of this announcement? Or even knows when these sacrifices occur? The lot of the medical hero is surely not to be laurel-crowned in this world. The medical officer of the United States may die at his post, manfully doing his duty, and usually sacrificing himself to protect his country from the inroads of dangerous epidemic disease, and the public passes heedlessly along attending to its business, but is ever ready to lavish praise on the hero of martial deeds. It was ever thus, and will probably so continue. To not a little degree the profession has itself to blame for the apathy displayed toward its self-sacrificing members. So long as medicine presents to the world a front that appears discordant and disorganized, it is too much to expect that the masses will see through this crust to the heroism that so often lies beneath. Again, until medical societies include all physicians and until meetings are held by our own organizations to commemorate the sacrifices of our noble fellows in medicine, the public will not be able to intelligently judge of the real merits of the point at issue. Indeed, the American people are tender-hearted and willing to reward recognized courage, and the medical profession must awake from its sloth if it desires to enjoy that prestige and honor to which it knows itself entitled.

[1] JOURNAL, October 28, p. 116.

THE TUBERCULIN TEST.

The present antituberculosis agitation seems likely to bring up some questions of medical casuistry, one of which is: Is it justifiable in all cases to use, as a diagnostic method, any measure that may arouse to pernicious activity a latent or quiescent morbid condition? Can we use the tuberculin test with a free hand until we are sure that the results may not be disastrous in certain cases? According to a recent advocate, this possibility is a recommendation rather than an objection. "The patient with tuberculosis active or passive," he says, "is living over a veritable sleeping Vesuvius apt to become active at any time and produce the most fatal results. The test is most valuable which finds the disease earliest." But people do live many years with latent or

encysted foci of the disease, suffering nothing from it and spreading no contagion, and may even live out their natural term of life happily unconscious of the "sleeping Vesuvius" which, undisturbed, continues to sleep. Is it not the true wisdom in such a case to "let the sleeping dog lie?" In his recently published and highly commended work on tuberculosis, Dr. S. A. Knopf commits himself decidedly against this test. He says that while it may do nothing but reveal a latent tuberculosis in 999 cases, in the thousandth it may cause an unexpected and rapidly fatal generalization of the disease. Evidently others do not share his conservatism, for the tuberculin test is being largely used and is strongly recommended, notwithstanding the fact that death has occurred even within two days after the injection. How many latent cases have been revived into activity is unknown—there are no records. It has not only been used in doubtful cases, but in those not suspected of the disease, and in a considerable number who have reacted but have not been certainly proven tuberculous. The question is: Is this matter of a positive diagnosis so important in all cases that a risk should be taken? Would it not be better to trust to other signs in dubious cases, and is there any justification in subjecting, let us say, children with only enlarged glands or with adenoid growths, to such a test, until prolonged observation has shown that there is not even a remote chance of danger to life from its employment? Any actual curative effect of the injection, at least of the stronger tuberculin which is alone recommended for diagnostic use, is generally discredited at the present time, so the users have not that for their justification. We offer these as suggestions, but admit a preference for the conservative standpoint of Dr. Knopf.

Medical News.

THE TEA concert given in London, November 18, by Mrs. James Brown-Potter, for the benefit of the American hospital ship *Maine,* netted $37,000.

DR. R. STANSBURY SUTTON, Cincinnati, has sold his private hospital, "Terrace Bank Sanatorium," which was founded by him in 1883. The property is to be converted into an apartment building.

J. SCHWALBE of Berlin, one of the editors of the *Deu. Med. Woch.,* has compiled a valuable pamphlet containing a summary of the laws regulating admission to medical practice in ninety-eight civilized states, alphabetically arranged.

THE SECRETARY of war has granted leave of absence to Major Julian M. Cabell of the medical department. He has sailed for England to accept the position of surgeon on the hospital ship *Maine,* now being fitted out for South Africa.

THROUGH gifts by Mrs. Sara Haldeman Haly, a new operating-room has been added to the Harrisburg (Pa.) Hospital. In addition the donor also contributed 300 shares of Harrisburg National Bank stock to endow and maintain this department.

NOW COMES a doctor from Paris with what the press have denominated a "cure for consumption." The new method advocated is the injection into the trachea of the oils of thyme, eucalyptus and cinnamon diluted with olive-oil. In justice to the Doctor, he speaks of it as a "treatment" and not a cure.

ABEL DEVAL, M.D., after graduating in Paris six years ago, went on the stage and became quite a successful actor, still keeping up his medical practice. He has lately assumed the management of a small, fashionable theater, the Athenée Comique.

A TEST case brought in Omaha, Neb., to determine the legality of osteopathy in that state has resulted in the osteopath being found not guilty of the charge—practicing medicine without a certificate. The case will be taken into the higher courts.

A WOMAN of Rome, N. Y., died in that city a few days ago, through probable neglect from "Christian Science" treatment. No physician had been summoned and no medicine given, and the physician who made the post-mortem is quoted as saying that under proper medical treatment life might have been prolonged for several years.

THE CORNER-STONE of the new building for the medical school at Lima, Peru, was laid by the president of the Republic on the first Sunday in September. It is to be fully equipped for all branches of modern medical instruction. We note, by the way, that the medics of Lima are the champions in the newly introduced *lucha sportiva,* football.

PROFESSOR FROSCH takes the place at the Berlin Institute for Infectious Diseases, left vacant by Pfeiffer's departure for Koenigsberg. Braun of Jena goes to Wuerzburg and Heidenhain of Wuerzburg takes charge of the Institute of Anatomy at Tuebingen. Desmeth has resigned the chair of general pathology at Brussels; E. Spehl has been appointed to succeed him.

THE TENNESSEE State Board of Health has adopted resolutions declaring tuberculosis a contagious and infectious disease. It directs that all inmates of State institutions so afflicted be isolated in rooms or wards devoted to such patients, and that they be denied association with other inmates. The rooms, when vacant, are to be thoroughly disinfected according to the most approved methods.

THE YELLOW fever question throughout the country contiguous to New Orleans is about settled, at least for the present season. Ice, frost, and a temperature as low as 28 degrees have been general along the railroads verging to the city mentioned. The State Board of Health does not deny the presence of sporadic cases, but merely claims that there is no danger to result from free communication with the outside world.

THE ENTERPRISING editor of the *Gaz. Med. de Paris,* Marcel Baudouin, also editor of the *Archives Provinciales de Med.* and the *Archives Provinciales de Chirurgie* and founder of the Institut de Bibliographie, is actively continuing his campaign for the organization of a company to rent automobiles to physicians at low rates, and hopes for its early realization in France. In the meantime he urges manufacturers to bear the needs of the country doctor in mind in designing vehicles.

A SOLDIERS' SANATORIUM at Santa Fe, N. M., for tubercular subjects, has been established at Fort Bayard, by the United States Army Medical Corps. Dr. Daniel M. Appel is in charge, with three nurses and thirteen assistants. Three of the barrack buildings and most of the quarters for officers are in use. These buildings are of brick, have wide verandahs, a library and an amusement room. There are accommodations for 100

patients and next year there will be room for 200. Eight hours daily out of doors is required from every patient.

Important amendments to the lunacy laws of Maryland will be proposed by the Medical and Chirurgical Faculty at the next session of the legislature. At present, if a man has a small property, say $1000, he can not be committed as a pauper, although this would be quite insufficient to support his family and pay $7 a week for his own care. It is said that 1100 persons have been illegally committed to insane asylums in the state owing to legal defects. The proposed amendment is modeled after the New York law and provides for a certificate by physicians, which is then presented in court for approval.

The French Red Cross Society is preparing an expedition for the Transvaal, with ambulance, field-hospital, etc., and the *Gaz. Med.* states that it is also trying to modify its charter or make other arrangements so as to send to a foreign country its five field-hospitals it already has in reserve for home needs. The French Society for Aid to Wounded Soldiers distributed nearly $24,000 during our war with Spain, and is now collecting funds for the Transvaal, preparing four field-hospitals, two for the British and two for the Boer wounded. The Russian Red Cross is also fitting out an expedition.

The India correspondent for the *Lancet* (November 11), writing from Calcutta, October 12, gives the total deaths from plague in India for the preceding week as 6727. Of these the Bombay presidency contributed 5812, the general mortality in Bombay city being 300 a week higher than it ought to be, and getting worse. The writer denies the report about the plague suddenly subsiding in Poona, the daily average of cases reported being about 20. There was some improvement in Calcutta, but the returns were 30 to 40 deaths a week. He says that inoculation is coming more into favor and several of the native papers in Bombay are endeavoring to induce their subscribers and the public to resort to this. Some 2000 have been inoculated in Hyderabad and large numbers in Nasik.

About a month ago the City Council of Americus, Ga., passed an ordinance requiring compulsory vaccination. On November 16, a woman of that city, who is also a "Christian Scientist," was brought before the mayor for refusing to be vaccinated, and he sentenced her to thirty days in the police barracks, but a suspension of sentence was asked for. On the 17th five other women were sentenced to fifteen days' confinement, at some place to be designated by the chief of police, and to pay a fine of $3 each. The same sentence is reserved to all members of that church who refuse to comply with the ordinance. A merchant there has also been sentenced to thirty days' imprisonment in the city hall, and to pay a fine of $15. Certioraris will be taken to the superior court and if necessary to the supreme court.

Prof. J. George Adami of Montreal will give a clinical lecture in the amphitheater of the Cook County Hospital, Chicago, on the morning of November 29, on goiter, including the relations between simple and exophthalmic goiter, the latter being mainly considered, and incidentally goiter with myxedema. In the evening of the same day, as previously mentioned in these columns, he will deliver the annual lecture of the Chicago Society of Internal Medicine, at a joint meeting of this Society and the Chicago Medical Society, in the hall of the latter. His subject will be "Latent Infection and Subinfection, with Reference more Especially to the Etiology of Pernicious Anemia." A dinner will be given at the Auditorium Hotel in honor of Dr. Adami, the following evening.

In a recent sermon Bishop Fallows of Chicago made the following sensible remarks regarding one of the prevailing fads. "For every case of professed healing by 'Christian Science' Dowie can bring ten from his own experience as a faith healer. And yet Dowie calls 'Mother' Eddy by many naughty terms. And one can gather certificates from the daily papers, a hundred to one that 'Mother' Eddy and Dowie can produce, of the most extraordinary cures ever known. If now, my good friends are going to start or believe in a professed religious system because they have healed through the influence of a mental law which is as universal as gravitation, these people who have been cured by liver pills or cholera mixture have just as much reason to establish a religious cult of Christian Liver Pillists or Christian Cholera Mixturists as has 'Mother' Eddy to found a church of 'Christian Scientists.' 'By their fruits ye shall know them.'"

Food Adulteration.—The United States Senate Committee on Manufactures is still sitting in New York City, and giving hearings regarding adulteration of food and drink. (See Journal, November 18, p. 1303.) George B. Sadler, editor of *Bonfort's Wine and Spirit Circular,* testified that, in his opinion, the government was defrauded annually of at least six million dollars in duties on spirits alone, in consequence of the protection afforded domestic spirits by a high duty, and the large quantity of spurious liquor sold in the bottles used for genuine imported liquor, but under fraudulent labels. Regarding beer, Dr. Francis Wyatt, consulting chemist to the National Brewing Academy, testified that unmalted cereals in beer did not detract from its quality. Dr. Edward H. Jenkins, of the Connecticut Agricultural Experiment Station, testified regarding food adulteration. He stated that while adulteration was practiced to an enormous extent, the proportion of harmful adulteration was comparatively small, and decidedly less than a few years ago. He exhibited to the Committee samples of coffee berries made of clay, spices made of prunestones and cocoa shells, mustard consisting chiefly of plaster of Paris, jellies made up of glucose and starch paste, with artificial coloring and flavoring, and so-called olive oil, about 95 per cent. of which was cottonseed oil.

New York's Dispensary Regulations.—The Committee of the State Board of Charities, appointed to formulate new regulations for the government and regulation of dispensaries, in accordance with the new dispensary law, has just submitted its report. A new dispensary applying for a license is required to satisfactorily answer a list of twenty questions designed to probe deeply into the financial responsibility of its promoters, the reasons for its establishment and the manner in which it is proposed to govern it. There are nine rules governing the dispensary after it has received its license. The first of these requires the posting of a notice, stating that the dispensary is organized for the free medical relief of the poor only, and calling attention to the penalty provided by law for those seeking such relief under false pretenses. The second rule provides for a new dispensary officer, to be called the "Registrar," who will keep the records and enforce the rules and regulations of the dispensary. Immediate treatment is to be given to emergency cases and to all persons evidently poor and needy, while in doubtful cases a first treatment may be given, pending an inquiry into their financial

status, to be made by the dispensary officers or others as desired. The registrar must file an admission card for every applicant, and every pass-card must have printed on it the law regarding those who falsely claim to be proper subjects for dispensary relief. All apothecaries in dispensaries must be licensed under the laws of the state, or be graduates of a regularly incorporated medical college. All dispensaries are to be inspected at least once in three months by the local health board, at the written request of their managers. Seats must be provided for all applicants, the sexes must be kept separate, and a matron must look after the women and be present at gynecologic examinations.

BUBONIC PLAGUE IN NEW YORK.—Bubonic plague was brought into New York Harbor, November 18, on the steamship *J. W. Taylor*. The ship left Santos, Brazil, October 24, sailing directly to New York. Robert Hope, the steward, had been in a hospital in Santos for a fortnight, suffering with what was supposed to be eczema. He returned to his ship when it was ready to sail, and was able to attend to his duties. After being on board for a week he was compelled to go to bed, and died in a few days. No physician was on board, but from the symptoms, which were carefully recorded, there is no doubt that his death was the result of the plague. The disease had been present in Santos for several weeks, and there is nothing strange about Hope having taken it. The day he died, the captain and the cook, both of whom had been taking care of the deceased steward, were taken down with the premonitory symptoms of the disease. On arriving in New York the two sick ones were sent to Swinburne Island. Every possible care was taken to prevent the possibility of the extension of the disease, and the ship and all its contents will be thoroughly disinfected, even burned if it is thought necessary. Latest reports are that the two sick are doing well. Dr. H. M. Biggs, of the bacteriological laboratory of the Health Department, made the following report on November 19: "The bacteriological examinations thus far made by Dr. Parke apparently show that the contents of the broken down buboes do not now contain any living germs. It is possible that some may develop later in the cultures. The microscopical examinations are also rather negative. These negative results are such as might be expected in plague at the stage of the disease presented in these men, and would be very unusual in other conditions. They, therefore, afford some confirmatory evidence as to the existence of plague."

MEDICAL SIDE OF THE TRANSVAAL WAR.—That the medical department of the British army will have much to contend with on account of the climate may not be appreciated in this country. While we are entering our winter season, they are approaching the summer, and the consequential hot period. From the *Lancet* of November 11 we gain much information in regard to the prevailing conditions from a climatic point of view. In the high country the days are very hot and the nights unusually cool. In Maritzburg, for example, the temperature reaches a maximum of 105 F., and has been recorded at 52.3 F., and this within twenty-four hours' time, while in winter it is often a maximum of 84 F., with a minimum of 33.8 F. Ladysmith, which is at an elevation of 3285 feet, is also subject to great variations, which renders the place unsalubrious at some seasons. In midsummer, or January, the heat there is at times intense. In Pretoria the variations are not so great, the maximum temperature in January reaching 90 F., while the coldest months, July and August, the temperature falls to a minimum of 30 F. The mean monthly temperatures in Pretoria are 72 and 77 F. in January, and 55 and 59 F. in August. In the low-lying coast towns and belt of alluvial plain, five and fifteen miles in extent, between the coast and the hills, the climate has the characters of a moist tropical one and is damp and enervating and hot. The rainfall reaches thirty inches annually, most of this occurring in the hot months, viz., October to April, the greatest fall being in December and January. The following precautions are required on account of the climate: 1, warm blankets and abdominal belts as protection against the diurnal variations of temperature; 2, waterproof sheets and cloaks as protection against heavy rains; 3, suitable head dress as protection against sun; and 4, warm clothing even in summer in the Drakensberg country. Among the prevailing diseases is enteric fever, which is very prevalent, especially in the high lands. It was epidemic in Utrecht during the Zulu war in 1879, at Newcastle after the Boer war, at Ladysmith and generally throughout these districts. Pietermaritzburg and other important towns in the present field of war suffer year after year, and since the reoccupation of Ladysmith in 1897 the garrison has suffered greatly. The first cases are likely to occur a few weeks after the onset of the rains, that is, in October. The streams and rivers are constantly being polluted by adjoining habitations, and also by the carcasses of dead animals. Dysentery and diarrhea are also diseases that are very common and are prevalent in the low-lying coast country, where they are said to have a malarial origin. They are also equally prevalent in the high lands, where they are induced by wettings, chills and exposure to fatigue. Malarial fevers are common in the low-lying coast country and are very prevalent also in the Tsetse fly district, viz., in the country between the Drakensberg and the coast north and south of Delagoa Bay. Parasitic diseases are common. Eating uncooked vegetables, watercress, salads, and insufficiently cooked liver, kidneys, etc., of infected animals, is therefore to be avoided. Ophthalmia is another disease that is prevalent in the Transvaal, but is similar to Egyptian ophthalmia. It occurs mostly during the dry months before the rains, often in epidemics as also does pneumonia. In the *British Medical Journal* of November 11 there is an editorial query as to how a fresh medical mobilization is to be effected, as more than 180 officers are now needed or employed in the field and the home establishment is already practically exhausted. The *Journal* assumes that all those liable to recall to service on the retired pay list will now be summoned, but will probably number less than 100, and not a few of these will be found unfit for foreign service on account of health. The *Journal* also says that the Red Cross Society seems to be taking matters in a somewhat leisurely fashion, and the writer awaits the solution of Great Britain's army medical problems with considerable uneasiness and misgiving, and thinks that the fact that their army medical establishments are undermanned is likely to end in very considerable difficulties. Mr. Frederick Treves, who sailed on November 11, took with him two nurses, one of whom has been his instrument nurse for some years. He also took his own surgical appliances, including special boxes of sterilized dressings, each box 7 by 5 by 1¼ inches, hermetically sealed, and containing a dozen sterilized artificial sponges, sterilized ligatures, and a tube containing absolute phenol. The box is opened by detaching a tin strip soldered around the lid, and the lid, when removed, forms an instrument tray.

When this tray is half filled with water the quantity of phenol in the tube is sufficient to make a carbolic solution of 1 in 20, and will be used for sterilizing. The *Lancet* of the same date says that the two hospital trains sanctioned will be increased if necessary, and the two sick transports, *Spartan* and *Trojan*, are to be used in conveying invalids from Durban to Capetown for transfer to the base hospital at Wynberg, but these latter may be diverted, if necessary, for the transport of sick from South Africa to England. The hospital-ship provided by the Central British Red Cross Committee will accommodate about 200 patients and is to be used exclusively for conveyance between South Africa and England.

Correspondence.

Vital Statistics in Indiana.

BLUFFTON, IND., Nov. 14, 1899.

To the Editor:—I see by the JOURNAL of November 4, under "Vital Statistics in Indiana" (p. 1173), that it is claimed the physicians of this state are fighting the Board of Health. Such a charge is unjust, and there is not a word of truth in it, but, on the contrary, the law passed in this state is considered by the physicians as being one of the best, if not the best, in the United States to-day. It is also claimed there are "elaborate blanks of births and deaths to fill out and this is made obligatory." This is not true; the "death blank" is filled out by the people where the death occurs, and it places all the work on the undertaker and not on the physician. As for births, etc., there is a very simple blank and just the same as has been used in this state for years.

It is also claimed that it is difficult to find competent physicians to act as "health officers." Such a claim is not worthy of publication and shows the writer knew nothing of the law he was writing about, for the law demands and defines the type of medical men who shall serve. None have resigned their positions but, on the contrary, the supply is greater than the demand. This law, it is true, causes the health officer to do work; he can not do as he did—just draw his salary each quarter. It makes reports accurate and will be a means of advancing medical science.

If the writer of the article in the JOURNAL will read our law, no doubt he will change his opinion. We claim we have officers above the average in this state, and if you would visit us we could show you an organization in this county, for a sample, that would change your opinion, but because some "crank" officer or "medical man" objects to a law that advances science and is a vast blessing to our people it is no reason why untruthful statements should be made. We are aware of the fact that a few are fighting the Board of Health, but history teaches that most efforts to do good are fought. Personal attacks have been made against our most worthy secretary, but this is always the case. As for the charges made, I repeat, they are groundless and an insult to the State of Indiana, and being in a publication like the JOURNAL makes it all the more serious. I have the first objection to hear in this state from the profession or any one else to our new law, and I am of the opinion that the article referred to is the production of some individual who allows his prejudice to get the best of his good sense. He had no authority to make the claim that it—the law—places the health officer in a very embarrassing position, for I can prove the officers of this state are not of that opinion, and if one of them has made that claim his ability is not that of an "officer," but a "kicker," and he ranks at the foot.

It will be a sad day in Indiana, for scientific medicine, when the profession antagonizes the Board of Health and such men as our secretary. I believe it is no more than proper that such groundless claims should be investigated and spoken of here.

Fraternally yours, BROSE S. HORNE, M.D.

[So far as we were in error in the editorial, we accept correction. We believed our information was reliable or it would not have been acted on. The JOURNAL will, however, still maintain its position that uncompensated labor ought not to be demanded of the profession, and that reports of births should be paid for if required of physicians. The JOURNAL made no charges against any health officer's ability or good intentions, and it, of course, fully recognizes the value of vital statistics.—ED.]

Cause of Beriberi on American Whalers.

NEW YORK CITY, Oct. 25, 1899.

To the Editor:—The whaling bark, *Greyhound*, came into port at New Bedford, Mass., Nov. 4, 1897, with a tale of distress and death. Two of her crew had succumbed to beriberi, and the body of a third, who had died a few days before, was brought into port. There were also five men sick with the disease, in the forecastle. Although the *Greyhound* had been five years on the cruise, when she touched at St. Helena six months before, all the members of the crew were in good health. The men were not stricken with the disease until about a month before she reached port, while the bark was homeward bound. The third man died two days before reaching port. The captain's wife was on board and nursed the men. She and the captain were not sick. Although the *Greyhound* was well provisioned, she was short of vegetables, and the crew suffered.

The bark brought home 533 barrels of sperm oil, 6 of fat case oil, and 11 of blackfish-head oil. She had previously sent home, fifty-four months out from the home port, 1693 barrels of sperm oil, 232 of whale oil, 1601 pounds of bone, and 47 pounds of ambergris.

In reply to an inquiry of mine, as to what he thought to be the cause of the outbreak of beriberi, and whether in the rendering of the oil, charcoal had been used as fuel, Dr. Edwin E. Waite, the quarantine officer of New Bedford, said: "Charcoal is not used at all in rendering; the blubber is *tried out* by the burning of wood fuel. It is almost impossible to state the cause of the outbreak of beriberi on the *Greyhound*. She had not been in any port for five months until she arrived here. It might have been due to the herding together of a large body of men in a small ill-ventilated apartment with some local cause which it is impossible to state. We have a great deal of beriberi coming here."

My father, of Philadelphia, who was for many years engaged in the whale-oil and bone business, and whose commercial relations brought him in contact with such whaling merchants as Edward Mott Robinson and the Howlands of New Bedford, who practically controlled the entire whale-oil business of the country, tells me that there is no difference in the manner of rendering the various oils. In his traffic, buying and selling products of the whale, mackerel, cod and men-hadden oil fisheries, he frequently found "scurvy" aboard ships. This may have been the disease now called "beriberi." He often bought and sold old merchant ships, that had become too small for their own commercial requirements. They would be sent to him in ballast, to be fitted out as whalers. In fitting them out the main point kept in view was to get as much room as possible for storing the oil in barrels, and for rendering and coopering purposes, at the whaling grounds. If large crews were put aboard they were necessarily crowded, and while in the Arctic or Antarctic regions would stay most of the time below deck.

In my investigation of an outbreak of beriberi on the bark *Robert S. Patterson*, which came into port at Perth Amboy, N. J., in 1896, and which I reported in the *Medical Record*, at the time, I found that seventy-five Navassa (West Indian) negroes had been shut up for thirteen days in a room five feet high, 30 feet wide, and 50 feet long. Five men had died on the voyage. In a space therefore of 7500 cubic feet, 75, at any rate 70 men, lived hatched down, for thirteen days and nights, with the least possible ventilation. These negroes were passengers returning to the states from the phosphate mines. Their overcrowding caused the presence of an excess of carbonic acid gas. The crew was composed of eleven Europeans, not one of whom was attacked: they had plenty of fresh air. On whaling vessels, most of the men aboard have nothing, or very little, to do with sailing the ship: they are coopers or renderers who remain below deck. Long-continued overcrowding, and ill-ventilation of cramped quarters are probably the cause of outbreaks of beriberi on American whalers.

ALBERT S. ASHMEAD, M.D.

Phototherapy.

FORT DODGE, Iowa, Nov. 10, 1899.

To the Editor: In the JOURNAL for October 21 (p. 1049), I note your comments on "Phototherapy." In the June number of the *Iowa Medical Journal*, I called attention to work done along this line by myself. This was some four months in advance of the publication of Finsen's paper quoted by you.

At the time of writing my paper I was limiting treatment to the use of rays concentrated by a twelve-inch condensing lens. The volume of sunlight thus utilized was found to be too small, and I have had constructed a metallic reflector that pours a volume of concentrated sunshine over the entire thorax and abdomen, which is as hot as the patient can bear. The heat rays are excluded as much as possible. This reflector is used in the same manner in which Archimedes is said to have fired the Roman ships.

In June I reported cases of lupus thus cured. Since then I have treated two cases of lupus in addition to those already reported, both of which were cured by a single treatment, each of about five minutes' duration. The bacilli are destroyed by the intensity of the light and the ulcer becomes a simple one and soon heals. Abrams of San Francisco has also reported cures of lupus by the use of a five-inch lens.

Besides the specific action of the light on the morbid process in the lung substance, no small amount of the benefit derived is believed to be through the blood which has passed in immediate contact with the strongly-condensed sunlight while circulating through the skin of the chest and abdomen. The patients, if not too far advanced, in the so-called third stage of tuberculosis, soon acquire better color, the cough disappears, the temperature declines, and in time reaches the normal, night sweats cease, râles disappear, and there is increase in the body weight.

The intense light concentrated by the twelve-inch lens I now use by moving the lens rapidly over the chest to prevent burning, and yet permitting of deep penetration of the actinic rays into the substance of the lungs. This is a sort of sun massage.

J. W. KIME, M.D.

Philadelphia.

DR. JOHN B. DEAVER, who for several years has been a member of the surgical staff of the Philadelphia Hospital, has resigned.

DR. S. WEIR MITCHELL will give two lectures to girls of the commercial and general courses of the high school, on "Conduct of Life."

COUNCILS COMMITTEE has accepted the gift of a piece of property, from George Woodward, to be used for municipal hospital purposes.

A CONTINGENT bequest of several thousand dollars has been left the Presbyterian Hospital of this city, by Harriet Woodside, recently deceased.

AMONG other items of the city's expense for the current year is an allowance of $500,308 for 1899 and $586,168, for 1900, as necessary for the maintenance of the Philadelphia Hospital.

THROUGH the contingent bequest of Mr. George W. Rexsamer, who died in this city recently, a sufficient sum of money has been left the Episcopal Hospital for the erection of a ward or building to be known as the Rexsamer ward or building.

THE AUTHORITIES of the Pennsylvania Hospital have acquired property near the corner of Spruce and Eighth streets, at an expense of $25,000, on which it proposes to build a house suitable for the ambulance service.

OFFICERS of the Faculty Club, University of Pennsylvania, recently elected are: president, E. C. Kirk; vice-presidents, John Marshall, Josiah H. Penniman, Edwin G. Conklin; treasurer, Samuel S. Kneass; secretary, Edgar A. Singer, Jr.; governors, L. S. Rowe, A. C. Abbott and William C. Mikell.

THE SEMI-ANNUAL smoker of the alumni of the University of Pennsylvania was held the evening of November 18. Addresses were made by different members of the faculty, outlining the method of teaching now in vogue at the university. Of those who spoke may be mentioned Drs. James Tyson, John H. Musser, J. William White, Simon Flexner, Alfred Stengel and John G. Clark.

IN THE case of the persons who were convicted of bribing an employee of the United States Government here recently (see last week's JOURNAL, p. 1302), and who asked for a new trial on the ground that one of the jurors had at one time been an inmate of an insane asylum, Judge McPherson has overruled the motion for a new trial.

THE NUMBER of deaths in the city for the week ending November 18, was 365, an increase of 51 over the previous week, and a decrease of 49 over that of last year. The principal causes were: apoplexy, 16; nephritis, 20; cancer, 18; cirrhosis of liver, 5; tuberculosis, 43; diabetes, 3; heart disease, 27; pneumonia, 38. Infectious diseases: diphtheria, 100 cases, 24 deaths; scarlet fever, 70 and 3 deaths; typhoid fever, 42 and 4 deaths.

U. S. COMMISSIONER of Immigration Roberts has called attention to the necessity of having a careful examination of immigrants made at the different foreign ports. As is well known, contagious diseases frequently break out even after the vessel is on its way to this country. In his opinion this movement will have the co-operation of the steamship companies, who often sustain losses under the present management of affairs.

THE BOARD of Education has taken matters in hand relative to the large number of cases of diphtheria which have been reported here during the last few weeks. It is proposed to empower the Committee on Elementary Schools to make arrangements with the faculties and trustees of the medical colleges and hospitals for the formation of a corps of physicians to daily visit the schools and make a medical inspection of such children as may show symptoms of illness.

MUCH GOOD for the relief of the poor has resulted from the work of the Octavia Hill Association, an organization created for the purpose of assuming control of some of the smaller tenement houses for the laboring classes. While not renting them for less money than is asked by the landlords themselves, it is claimed that the exactions demanded before renting, such as cleanliness, and good sanitary surroundings are sufficient to keep the houses in demand. During the past year a dividend of 4.5 per cent. was declared, and the capital stock increased from $20,000 to $50,000.

New York City.

DR. PEARCE BAILEY, the neurologist, was married on November 11 to Edith Lawrence, daughter of Mrs. Charles Newbold Black, Jobstown, N. J.

DR. LOUIS FAUGERES BISHOP, secretary of the N. Y. Academy of Medicine, was married on November 14, to Charlotte Dater, daughter of Mrs. Siegfried Gruner, this city.

WHILE Dr. Douglas Brown was taking a nap in his apartments on the first floor of No. 66 Madison Avenue, the other evening, a sneak-thief entered and stole money and valuable jewelry.

A LONGSHOREMAN recently entered the Long Island College Hospital, with a small sore on his neck, which was found to be anthrax. He grew rapidly worse, and died. Three days before his admission he had been busy handling both leather and hay on the river front, making uncertain the source of infection.

THE INVESTIGATION into the charges made against the commander of the Sailors' Snug Harbor has not yet been completed, but much of the recent testimony appears to be favorable to him. Rear Admiral Philip, formerly in command of the *Texas*, testified warmly in behalf of Commander Delehanty, and many of the hospital inmates seemed favorably disposed toward him.

THE NEW YORK Association for Improving the Condition of the Poor has issued its report for the year ending September 30. This shows that it has had over 8000 applications for relief, and has aided 6000 families with homes in obtaining food, fuel, clothing, rent and transportation. It not only needs money to carry on this work, but cast-off clothing for men, women and children.

IN SEPTEMBER, 1898, Fire Commissioner Scannell removed Dr. Francis M. Banta from his position as medical officer to the New York Fire Department, without giving reasons or making charges. Dr. Banta had been appointed to the position after a competitive civil service examination, and he accordingly sued for reinstatement. A justice of the supreme court has

just handed down a decision that Dr. Banta's dismissal was in violation of law, and orders that the verdict be recorded and that application be made to the special term for a peremptory mandamus.

FREE HOSPITAL TREATMENT.

THE HOSPITAL Saturday and Sunday Association held a meeting last Friday preparatory to their great annual collection. The sum realized last year was $70,000, but it is hoped that, owing to the increased general prosperity, the total this year may reach $100,000. This Association now represents thirty-eight hospitals, and the money collected is distributed among these hospitals on the basis of the number of days of free treatment given by each. Of the 34,740 patients cared for by these institutions last year, 21,052 were treated entirely gratis. The total number of free days was 730,606—indeed, the free patients aggregated as many days per capita as did the pay patients. The total cost of the hospital service was $1,653,038.49 last year, of which $756,449.67 had to be derived from the benevolent public.

FAKE SCHOOL OF PHARMACY.

THROUGH an advertisement in a New York newspaper under the title "Male Help Wanted" a fake school of pharmacy has been unearthed. Those who answered this advertisement were assured that by the payment of a moderate tuition fee and some work in the evenings, while pursuing other avocations during the day, it was possible for young men of ordinary intelligence and education to pass the examinations of the Board of Pharmacy, and become licensed pharmacists, thus commanding a salary of $12 to $15 a week. The enterprising head of this school, "Professor Novarine" does not appear among the list of graduates from the New York College of Pharmacy, though he claims to be a member of the Alumni Association of that institution. He does not state how he proposes to get around that provision of the law which requires at least four years of practical experience in a pharmacy.

RENOVATED BUTTER.

ALTHOUGH the local Deputy Commissioner of Agriculture asserts that very little "renovated" or so-called "process" butter is sold in the New York market, because of the rigid enforcement of the law by his department, dealers in creamery butter just as positively declare that the law is constantly violated. The latter estimate that about 10 per cent. of the 125,000,000 pounds of butter annually consumed in New York consists of this "renovated butter." Butter of every grade of quality is received in groceries in the West, and is then packed and shipped to the firms who make a business of renovating it. The butter is melted and passed through sieves three times, each time being subjected to aeration. It is then worked up with fresh milk to give it a proper flavor. At this time it can not be distinguished from good creamery butter, but in a short time it becomes rancid. This process butter contains less butter fat and more water than genuine creamery butter.

Chicago.

DR. CUNERA SCHEFFER has resigned from the staff of the Dunning hospital.

DR. GERTRUDE G. WELLINGTON has been elected president of the Medical Women's Club, vice Dr. Jennie E. Smith, resigned.

THE HEALTH Department has added measles and whooping-cough to the class of diseases which must be reported by attending physicians.

NO ACTION has been taken by the Cook County Commissioners toward an investigation into the management of the County Hospital, as advocated by some of the newspapers.

DR. JOHN G. BYRNE late first lieutenant and assistant-surgeon, Second Regiment Illinois Volunteers, during the Spanish-American War, has again accepted a medical appointment in the army. He was assigned to the Forty-First Infantry, and sailed with that regiment, November 20.

A BAZAAR will be held December 7 to 9, by the women of the Methodist Churches, to raise $25,000 for furnishing the new Wesley Hospital. When completed the institution will be conducted in conjunction with the medical school of Northwestern University, which stands on adjacent lots.

THE NEW building of the Englewood Union Hospital was formally opened November 17. The hospital is devoted to emergency cases and was started five years ago with a capacity of only two beds, which has been increased to forty-nine. The institution is supported almost entirely by donations from the people of Englewood.

A 14-YEAR-OLD child committed suicide by drinking carbolic acid purchased from a neighboring druggist. The coroner's jury rendered a self-evident verdict of suicide with the following recommendation: "From the evidence submitted we recommend that the law in regard to the selling of poisons be more rigidly enforced."

DR. F.E. WYNEKOOP of the Health Department, whose investigations into the etiology of influenza have attracted favorable comment, has succeeded in isolating the bacillus of Pfeiffer in cass examined for diphtheria, with increasing frequency during the past few weeks. This is regarded as an indication of an impending epidemic of la grippe.

COMPLAINTS have been made to the health and police departments against the wholesale distribution of samples of quack remedies for advertising purposes. It is alleged that several children have been made seriously ill by eating samples of this character. Both departments have declined to interfere on the ground that there is no ordinance in force by which the practice can be stopped.

IN COMPLIANCE with the recent order of the city council authorizing the employment by the Health Department of additional inspectors and fumigators, the following physicians have been appointed inspectors: George E. Krieger, Lee H. Mettler, Frank S. Churchill, Harry M. Richter, Fred A. Besley and W. W. Kimmett. The following will serve as fumigators: Joseph H. Garrity, J. A. McKinley, Albert M. Richardson, W. T. Dowdall and Charles H. Perigo.

THE ILLINOIS Society for the Prevention of Consumption contemplates an active campaign during the winter. Legislative aid will be asked and the Society will favor the establishment of a state institution for the care of these patients, as is advocated by the Illinois State Board of Health, to which the matter was referred by the last legislature, as previously mentioned in the JOURNAL. The Society will urge that a milk inspection department be added to the health office, for the examination of all milk brought to the city.

A WOMAN now lies at the point of death through the alleged carelessness of a midwife who left several unlabeled bottles after a visit. The patient's husband administered carbolic acid instead of liniment, and as a result she received such severe burns as to render her recovery improbable.

HEALTH OF THE CITY.

There has been no material change in the situation as noted last week. According to the weekly bulletin of the Health Department, there has been little abatement of the mortality from diphtheria and scarlet fever, the deaths from the former being the same as for the previous week, and while there were two less deaths from scarlet fever last week than the week previous, there were twelve in excess of the corresponding week of last year. This stationary mortality is regarded by the Department as due to the unusually mild weather, which favors ventilation by allowing windows and doors to be kept open. There has been no decrease in the number of new cases and an increase is feared on the advent of cold weather. There were twenty-eight deaths from "impure water diseases." The bulletin states that "this decrease is regarded by the Department to be due to the cessation of open lake dumping and the prohibition of dredging in the foul waters around the mouth of the river. The result is believed to fully warrant a continuance of this prohibition until the drainage canal is in operation."

St. Louis.

DR. H. TUHOLSKE, who went abroad during the past summer in search of health, has not yet returned.

DINNER TO THE "OLD GUARD."

At a recent largely attended meeting of the medical profession of St. Louis, a committee was appointed to provide for a dinner to be given before the close of the century to the members of the "old guard" of the medical profession in St. Louis and the State of Missouri. The particular members referred to in St. Louis are Drs. E. H. Gregory, John B. Johnson, Wm. M. McPheeters, Simon Pollack, Wm. Johnston and Thos. O'Reilly. These six are all that are left of the pioneers of the medical profession here. All have been in the harness, actively engaged in practicing medicine for sixty years or more, and living in

St. Louis more than fifty years, and the medical profession looks forward to the occasion referred to with great interest.

TRIBUTE TO DR. MUDD.

At a largely attended meeting of the St. Louis Medical Society and general profession, held the evening of November 21, the following tribute was paid to Dr. Henry Hodgen Mudd, whose death is noticed in "Deaths and Obituaries," on another page:

The St. Louis Medical Society and the profession at large are again called on to mourn the death of one of its most distinguished and honored members, in the person of Dr. Henry Hodgen Mudd, which sad event occurred at his home in this city, on the 20th inst., in the 56th year of his age.

In the death of Dr. Mudd the medical profession suffers the severest loss it has sustained in years. He was one who united in himself many sterling virtues—rare talents in his chosen profession. He had attained to an eminence reserved to but few. As a man he impressed all who approached him, by his force of character, fearlessness and devotion to the loftiest ideals. His death was largely due to his continuing at his post of duty after his waning physical strength had warned him of approaching danger, so that we may say that he died a martyr to his ideals and to his work. Even more than most physicians, did Dr. Mudd have the power without any conscious effort on his part of winning the esteem and affection of his patients.

Few men have been more loved. It is difficult among so many virtues and excellencies to select a few for mention, but if any can be especially singled out they are his indefatigable industry and his honesty of purpose, which knew neither fear, favor nor compromise. The younger members of the profession lose in him an ever ready friend and helper, the older a loyal confrère more ready to cover the faults of others than his own.

WM. M. MCPHEETERS,
J. M. SCOTT,
J. B. SHAPLEIGH,
JOSEPH GRINDON,
Committee.

Baltimore.

ASSISTANT SURGEON Percival S. Rossiter, U. S. A., is visiting his father, Rev. Dr. Rossiter, preparatory to leaving for the Philippines, whither he has been ordered.

DR. GEORGE W. DOBBIN for the past five years resident obstetrician at the Johns Hopkins Hospital, has resigned, to begin private practice.

THE SALISBURY Sanitarium (N.C.) was opened October 25, under the care and management of Dr. J. Ernest Stokes, who has been Dr. Kelly's assistant at the Johns Hopkins Hospital.

DR. GUY L. HUNNER of the gynecologic staff of the same hospital, has been granted a four-months leave of absence to travel in Europe. Dr. Dabney was appointed to fill the position temporarily.

ANNOUNCEMENT is made that the *Journal of Eye, Ear and Throat Diseases*, published by the medical staff of the Presbyterian Eye, Ear and Throat Charity Hospital, will hereafter appear as a bi-monthly instead of quarterly as heretofore.

THE SONS of the late Dr. James M. Morrison, who died from the effects of injuries received from robbers (see p. 1375), have offered a reward of $500 for the arrest and conviction of his assailants. Dr. Morrison was said to be the master of twenty-five languages.

THE IMPROVEMENTS at the Presbyterian Eye, Ear and Throat Hospital have been completed. A two-story dispensary has been erected in the rear. The old dispensary has been turned into wards, which have been furnished by Mrs. Joseph Rieman, in memory of her late husband.

IT IS proposed to consolidate the medical societies of Baltimore as sections of the Medical and Chirurgical Faculty of Maryland. Another proposition is to unite the county medical societies under this parent society, each paying a small membership fee. Should these plans mature, they would give a very strong organically united profession in Maryland, and would vastly increase the influence and usefulness of the Maryland profession. There is a good prospect of this plan being realized as it is favored by leaders in the profession.

Washington, D. C.

THE REPORT of the health officer for the week ended November 11 shows the total number of deaths to have been 117, 69 white and 48 colored. There were 82 cases of diphtheria, 70 of scarlet fever and 5 of smallpox under treatment at the close of the week.

DR. ARTHUR M. MCNAMEE has been appointed resident physician at the Georgetown University Hospital, to succeed Dr. Daniel McCarthy, who resigned to accept the position of resident physician to the Providence Hospital.

AT THE recent meeting of the directors of the Central Dispensary and Emergency Hospital, the following report was received from the staff, for the month: new cases, 980; number of visits, 1531; number in wards, 78; deaths, 9; autopsies, 5; prescriptions compounded, 2938; ambulance calls, 87.

Canada.

(From Our Regular Correspondent.)

TORONTO, Nov. 18, 1899.

DR. T. M. ROTCH, Boston, read a paper on "Infant Feeding," before the Toronto Medical Society, November 16.

THE DEATHS in Ontario from contagious diseases, in October, are as follows: scarlet fever, 7; diphtheria, 31; measles, 4; whooping-cough, 7; typhoid, 75; consumption, 179. The total from all causes numbered 1915.

DIPHTHERIA has been more prevalent than usual this autumn in Montreal, there being eight deaths reported in one week. Of typhoid fever, there has not been so many.

THE PEOPLE of London are justly proud of the hospital, opened November 16—Victoria Hospital, erected at a cost of $100,000. It occupies a complete block of the city and is a collection of pavilions, including one for an isolation hospital as well. The style of architecture is colonial. One special feature of the new hospital is the sun-rooms. The hospital itself is situated on a very high bank of the River Thames, and rolling away to the southward is a valley of undulating farm lands. The administration building is placed in the center and is directly connected with a residence for the nurses.

SMALLPOX OUTBREAK IN ESSEX COUNTY.

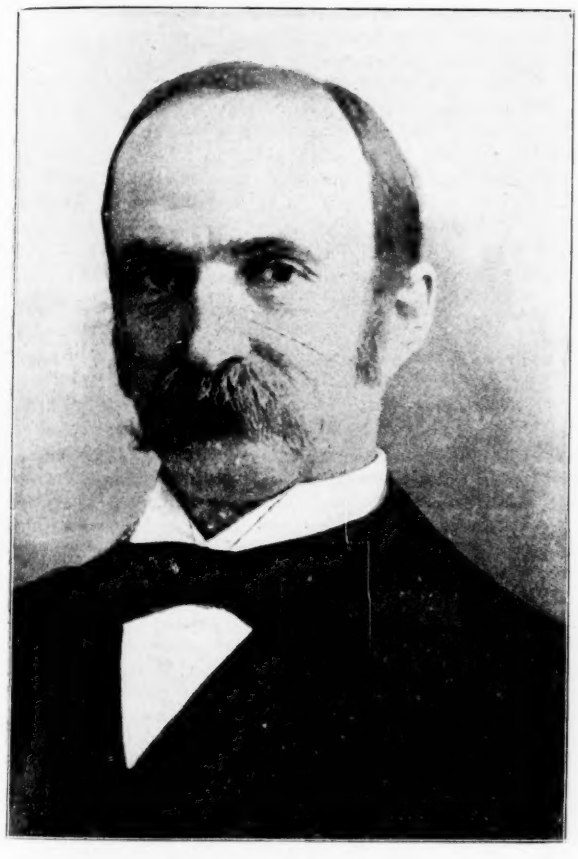
AT THE quarterly meeting of the Provincial Board of Health, which met on the 17th and 18th, a letter was presented from the special officer of the Board at the seat of the outbreak—Dr. Hodgetts. He reported that matters were in a very serious condition in the county and that the disease had reached such proportions that, on account of the intimate railway connection with Toronto, Detroit and Buffalo, those cities could hardly escape from infection. So far the cases number 45, divided amongst the municipalities as follows: Tilbury West, 12 cases in five houses; Maidstone, 6 in two houses; Belle River, 1 case; Rochester, 19 in nine houses, and Tilbury North, 7 in three houses. The report stated that the local municipal authorities are rendering the inspector every assistance. Vaccination is proceeding rapidly. The disease is considered to be of a mild character. The committee advised that a circular be sent out to physicians setting forth the general symptoms and signs of the disease.

Deaths and Obituaries.

DEATH OF DR. H. H. MUDD.

HENRY HODGEN MUDD, M.D., a leading surgeon of St. Louis, Mo., died November 20, having returned but a few days before from a trip to Europe, where he had been in search of health. A few months ago, following an attack of la grippe and a prolonged period of hard work, Dr. Mudd developed evidences of serious heart lesion, together with some of the symptoms of Bright's disease. By his physicians he was advised to go to Europe, to secure a long period of rest and incidentally receive the benefit of the "Schott" treatment for heart trouble. The result was in every way unsatisfactory; he grew progressively worse and very nearly failed to reach home alive. Dr. Mudd was born in Pittsfield, Ill., April 27, 1844. He was a son of the Hon. Henry T. Mudd and Elizabeth Hodgen Mudd, and has lived in St. Louis for more than forty years. He was a graduate of the literary and medical department of the Washington University of St. Louis, and also a city hospital graduate. In the beginning of his professional career he became associated with his uncle, the late Dr. John T. Hodgen, remaining with him as partner until the death of Dr. Hodgen and inheriting his enormous practice. From the beginning he has been a teacher in the medical department of Washington University,

for twenty years or more professor of anatomy and special surgery, and for ten years dean of the college. One of the latest services that he rendered to higher medical education in St. Louis was to secure the consolidation of the two oldest medical colleges, the Missouri or McDowell Medical College and the St. Louis Medical College (Medical Department of Washington University). Dr. Mudd was a member of the AMERICAN MEDICAL ASSOCIATION, and served some years ago as president of the surgical section; he was also a member of the American Surgical and the Southern Surgical associations, and of the St. Louis and Missouri Medical societies. He had been delegated the honor of delivering the address in surgery at the recent meeting of the Mississippi Valley Medical Association held in Chicago, but in consequence of his ill-health and absence he resigned. The Doctor was a contributor to the literature of the profession, and his papers all bore the mark of careful preparation and conscientious work. Indeed, the predominating feature of his charaeter was conscientiousness—loyal devotion to duty. The writer has known him since early boyhood, and he was one of those rare men who from childhood are



DR. HENRY H. MUDD.

looked up to and leaned upon by all the members of the family, young and old alike. This earnest disposition to do his duty and serve others made him a burden-bearer from the beginning of his life. It will never be known how many of the cares and sorrows of others he carried and relieved—how many dependants there were on his bounty, and in his gentle, faithful, loyal way he preserved intact all knowledge of the fact of his services to others. To the superficial observer, Dr. Mudd might at times have appeared cold, and yet those who knew him well know that he had a warm, gentle and tender heart—sympathetic almost as a woman. No man in the profession of medicine and surgery in St. Louis ever worked more slavishly for his patients, unless it were his former associate and predecessor, Dr. John T. Hodgen, and they both died in the harness, largely the result of overwork, at very nearly the same age. Dr. Mudd was an exceptionally good business man in addition to his being an able and successful physician; had he chosen commercial pursuits, there can be no question that he would have been eminently successful: the chances are that he would long ago have achieved that place in the business world which would have enabled him to take life easy, and thus have lived to the prolonged age of his father, who at 83 still lives. The family and friends of Dr. Mudd can felicitate themselves, however, that though his life was relatively short, the amount of work that he accomplished, and the amount of good that he did, represented far more than the average life of four-score years. (See also St. Louis items, Correspondence columns.)

DANIEL WEBSTER PRENTISS, M.D., Washington, D.C., died at his home, November 20. He was born in Washington, in 1843, and was graduated as Bachelor of Philosophy from Columbian College (D.C.), at the age of 18, and three years later received the honorary degree of Master of Arts. He was graduated from the medical department of the University of Pennsylvania in 1864. From 1861 to 1863 he was medical assistant to the surgeon in charge of the Quartermaster's Hospital at Washington, and was acting assistant-surgeon, U. S. A., from 1864 to 1865, on duty in general hospitals in and around Washington. He was a mmber of the Board of Health in 1865, and he took great interest in scientific matters and spent much time in investigations at the Smithsonian Institution. He was the author of various scientific works, and for many years he was a member of the AMERICAN MEDICAL ASSOCIATION, and president of the District of Columbia Medical Society at the time of his death.

JAMES M. MORRISON, M.D., Baltimore, University of Maryland, 1859, aged 62 years, died in that city November 13, as a result of injuries received from robbers who had entered his premises. He was a native Marylander, and at the beginning of the Civil War received a surgeon's appointment from President Lincoln and was commissioned in the Fourth Pennsylvania Cavalry to be afterward transferred to the Forty-eighth Pennsylvania Infantry. Soon after the cessation of hostilities he was again commissioned, this time in the regular army, and went west with General Custer, serving until that general's death. He then resigned for the purpose of settling in Baltimore, to practice his profession.

ISAAC J. MARTIN, M.D., died at Elliott City, Md., November 16, aged 40. Although a graduate of medicine he never practiced, being engaged in pharmacy.

HUGO KLAMER, M.D., N. Y. University, 1894, died in New York City, November 16, aged 40 years.

DAYTON WYCKOFF SEARLE, M.D., College of Physicians and Surgeons, N. Y., died in New York City, November 15, aged 62 years.

MATTHEW JOSEPH SMITH, M.D., College of Physicians and Surgeons, N. Y., 1890, died at his home in Jersey City, N. J., November 16.

DILWYN P. PANCOAST, M.D., Mullica Hill, N. J., died in Camden, N. J., November 4, aged 63 years. He was a medical graduate of the University of Pennsylvania, 1856, and served in the Union army from 1863 until the close of the war.

AMBROSE L. FULTON, M.D., died at his home in Astoria, Ore., November 11, from Bright's disease, following la grippe. He was born in Ohio, in 1851.

M. A. MCLAUGHLIN, M.D., one of the early settlers of San Francisco, Cal., died there November 20. He was born in Ireland, sixty-five years ago. At the breaking out of the Civil War he raised a company of cavalry, was appointed its captain, and served throughout the entire war. After being mustered out he returned to San Francisco and later graduated from Toland Medical College.

HOWARD M. MCFALL, M.D., Mattoon, Ill., died at Galena, Kan., November 10, aged 39 years. He was a graduate of Rush Medical College, Class of 1882, and at the time of his death was surgeon of the Second Illinois U. R. K. of P.

DEATHS ABROAD.

K. STRAUB, Munich, a young physician whose extensive research on the blood-vessels in progressive paralysis has been attracting attention recently and was expected to open new horizons for therapeutics when the complete report was published, is dead. The constant working in formaldhyde affected his lungs and opened the gate for infection.

DR. ENNIS, Grand River, Gaspe County, Quebec, died last week after a ten days' illness from paralysis. He was 35 years of age and was a graduate of Laval University.

New Instrument.

A BIVALVE SPECULUM WITH AN OBTURATOR.

BY J. RAWSON PENNINGTON, M.D.
CHICAGO.

This cut represents the author's bivalve speculum, grasped with the full hand ready for introduction. "O" is the obturator. It is a bivalve and tubular speculum combined, embodying the properties and applications of each. When it is introduced and the obturator is removed, a portion of the rectum

equal to the area of the circumference of the instrument is at once painlessly exposed for inspection, and by slightly opening the blades this field is greatly enlarged. It being a tubular instrument, by placing the patient in the **knee-chest posture,** you can inspect the entire rectum, semilunar valves and sometimes part of the sigmoid flexure.

Miscellany.

Elimination of Mercury in Milk.—Seven women who were taking large quantities of mercury in frictions or hypodermically, and nursing children, were tested, and in none could any trace of the mercury be discovered in the milk. The report, *La Pediatria* No. 9, concludes that we must abandon the expectation of treating heredo-syphilitic infants effectively by administering mercury to the mothers.

Surgical Intervention in Medical Nephritis.—Pousson (French Cong. of Urology) has collected twenty-four cases of nephritis complicated with serious accidents, treated surgically, with two deaths. Nephrotomy relieves the tension and congestion in these cases and regulates the circulation, restoring the kidney to its normal function, with disappearance of the albumin, and normal elimination of urea and other excremental substances. The prompt subsidence of the reno-renal reflex on the other kidney attests the efficacy of the nephrotomy. Nephrotomy is also effective in the same way as enucleation in sympathetic ophthalmia.

Long Vitality of the Gonococcus.—Before the German Congress of Physicians and Naturalists, Wertheim reported that cultures of the gonococcus had retained their vitality eight to ten months, when cultures could still be made from them, although no typical gonococci were to be distinguished by this time, nothing but "involution forms." He consequently asserts that there are actually living "involution forms" of the gonococcus which it is impossible to recognize with the microscope as gonococci, a statement which undermines the foundation of our present methods of treatment. He also found that the gonococcus was not destroyed by a temperature of 38 to 42 C., and hence the assumption that it is destroyed by the occurrence of fever is untenable.

The Medical Expert Problem.—At a November meeting of the Society of Medical Jurisprudence, held in the New York Academy of Medicine, Dr. Hugh Hamilton, Harrisburg, Pa., read a paper on the "Medical Autopsy." He animadverted upon the unsatisfactory system of necropsies, especially where there are legal issues, because of their being made at varying periods after death and in a slipshod manner. According to him the examinations should be made as quickly after death as possible, in order to combat even fractional doubts of criminality. That the microscope should occupy its proper field along with the other accepted tests, Dr. Hamilton maintained with emphasis. Add to this procedure, as he said, substantially an expert in the employ of the commonwealth, for the purpose of presenting the facts without bias and reserve, the commentary of motives and probabilities, to the lawyer, and then the truth would be much more likely to prevail than at present. He cited instances where the testimony at present in vogue had been torn in pieces by opposing counsel, and the experts were made ridiculous in the eyes of the public on confessedly debatable grounds. All agree that most of the parties who have been made to figure in these medicolegal affairs leave the arena with vague conclusions in which both judge and jury participate. Thus the state pays for what it does not get—information. This subject was also comprehensively discussed before the New York State Medical Association (JOURNAL, November 4, p. 1165), with the presentation of views by the Hon. Willard Bartlett and the Hon. Joseph F. Daly, both supreme court judges, Charlton T. Lewis and Wm. A. Purrington, Dr. Pheron A. Wales of Elmira, N.Y., and other physicians who discoursed on the theme, which might have been indefinitely prolonged but for the crowded program. The prevailing sense of the meeting was that the remedy lay with the physicians themselves, but may not the evil be succinctly stated thus, that the employed expert may be apt to state only what was of sole value to his own client? At all events, the whole matter seems now to be fully before the committee and the conviction is rife that the mills of the gods are yet grinding slowly.

Piperazin in the Cure of Gouty Tophi.—C. Gioffredi calls attention to the important therapeutic aid of local injections of piperazin in case of the gouty deposits which sometimes compromise the functions of a joint. His communication (*Gaz. degli Ospedale*, xx, 100) states that its great dissolving power in respect to uric acid and the urates—superior to any other of the alkaline substances used in therapeutics—renders its local application rational as suggested by Biesenthal and Schmidt as long ago as 1892, and his success in a case he reports, confirms this assumption: a man of 36 with typical gouty arthritis and a tophus in the serous tendon sheath of the peroneus longus. Internal treatment—one gram a day—almost entirely cured all the symptoms except those connected with the tophus, which was very painful. After experiments on animals Gioffredi injected 5 cg. (5/6 gr. of piperazin in .5 c.c.—⅛ minims) of water, directly into the tophus, followed two days later by another injection on the other side of the deposit. The first was followed by quite severe burning pain, at once relieved by application of ice, and all pain was prevented in the later injections by a preliminary ether spray. All trace of a calcareous deposit had vanished by the tenth injection, and all swelling a few days later. He believes that the same procedure would not be dangerous and might be found useful in cases of uric concretions in the articulations, using extremely weak solutions, with every antiseptic precaution, especially when all other therapeutic measures have failed to relieve.

Queries and Minor Notes.

INFORMATION WANTED.

OLYMPIA, WASH., Nov. 7, 1899.

To the Editor:—Will you kindly inform me where I may obtain the February, 1899, issue of *Archives of Neurology and Psychopathology?* Also advise me of a good progressive journal on microscopy, bacteriology, pathology, etc.

Very truly, H. S. W.

ANSWER:—The *Archives of Neurology and Psychopathology* can be obtained by addressing its Business Manager, State Hospital,

Utica, N. Y. We do not feel quite sure just what kind of a journal is desired from the second question, but suggest that some such a one as the *Journal of Experimental Medicine*, published by D. Appleton & Co., New York, may possibly meet the requirements. There is no journal in this country, so far as known, that is especially devoted to these three specialties.

NEW WASHINGTON, OHIO, Nov. 11, 1899.

To the Editor:—Please inform me on the following questions: 1. What is the best foreign German medical journal, price, and where can it be obtained? 2. Is the correspondence course of the Chicago School of Psychology what it is represented to be?

Yours truly, A. E. L.

ANSWERS:—1. We would recommend as a good German journal covering the general field of medicine one of the great weeklies, such as the *Deutsche Medicinische Wochenschrift*, or the *Berliner Klinische Wochenschrift*. Their home price is about 24 marks—$6—a year, but would be somewhat more here. They can be obtained through any dealer in German or foreign works in any of our large cities. 2. We have no personal knowledge of the institution, which appears to be a correspondence school. On general principles we should hesitate to very highly recommend any such in any department of medicine.

The Public Service.

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

Surgeon-General Sternberg's report opens with a tabulated statement of the financial transactions of the fiscal year. The money available for the use of the Army Medical Department was derived from appropriations by Congress and allotments by the President from the appropriations for national defense, Act of March 9, 1898. The appropriations by Congress amounted to $2,765,000. It is estimated that $500,000 of this sum will be returned to the Treasury. The allotment by the President amounted to $1,500,000, of which about $72,000 remained unexpended, June 30, 1899. The expenditures covered the expenses of medical supply depots, the purchase of medical supplies, medical attendance and medicines, pay of nurses and other employees at hospitals, laundrywork and the medical expenses of recruiting and mustering out.

ARMY MEDICAL MUSEUM.

The total number of specimens in the museum at the end of the fiscal year, June 30, 1899, was 35,039. Added during the year were 303, and discarded, transferred, etc., 289.

LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

An addition of 3934 volumes and 7737 pamphlets during the year raised the total number of volumes in the library to 131,872, and the number of pamphlets and medical theses to 224,369.

Volume iv, second series of the "Index Catalogue," includes the letter "D" and the letter "E" to "Emulsions," and forms a volume of 917 pages, which will be ready for distribution at the usual time. The manuscript of Volume v, second series, is in course of preparation for the printer.

MEDICAL OFFICERS.

The number of medical officers in the regular army (192) was barely sufficient for the needs of the service in time of peace, when the enlisted strength of the army was limited to 25,000 men. The enlarged army now in service, and the large number of new posts which have been established upon the seaboard of the United States and in Cuba and Porto Rico have made necessary a very considerable increase in the Medical Department. It has, therefore, been necessary to employ a large number of contract doctors or acting assistant-surgeons, who are appointed by the Surgeon-General, as their services are required, upon presenting satisfactory evidence of their professional qualifications and character. The number of applications for these appointments has been greatly in excess of the requirements of the service. These selected have, as a rule, proved to be competent as physicians and surgeons and zealous in the performance of their duties. During the year 140 medical officers of volunteers were appointed by the President, 11 as lieutenant-colonels, and 129 as majors. Forty-five of the appointees were from the regular army and 95 from civil life. At the end of the year there remained in service 34 majors and surgeons, 12 of whom were captains in the regular establishment.

CONTRACT SURGEONS.

On July 1, 1898, 156 contract surgeons were on duty and 784 contracts were made during the year, making a total of 940. Of this total 546 contracts were annulled during the year, and 9 contract surgeons died while in service, leaving 385 under contract on July 1, 1899.

THE ARMY MEDICAL SCHOOL.

This school was closed during the school year, 1898-99, as the important duties imposed on medical officers by the existing war conditions made it impracticable to carry out the usual school program.

THE HOSPITAL CORPS.

After the declaration of war with Spain the increase of the regular army and of volunteer troops necessitated a corresponding increase of the hospital corps. To hasten this increase, authority was given to transfer men from the volunteer regiments. By June 30, 1898, the corps had increased, mostly by transfers, to 3245, including stewards, acting stewards and privates. Nov. 30, 1898, it attained a maximum strength of 6588, after which it became reduced to 3368, mainly by the discharge of men enlisted for the war only. The total gain during the fiscal year was 6185 men, 3465 by enlistment and 2720 by transfer; the loss, 6062, of whom 5086 were discharged by order and only 201 by expiration of term; 101 died by disease, 4 were killed in action, 6 died of wounds, and 158 were discharged for disability.

Systematic teaching in the Hospital-Corps School of Instruction, at Washington Barracks, D. C., was practically suspended during the war. Recruits and transferred men received practical training at the general hospitals. Since the return of more settled conditions, systematic instruction at the school has been resumed. A similar school has been organized at Angel Island, Cal., with a view to give as much instruction as possible to hospital-corps men collected there for transportation to the Philippines. Special attention is given in the school course to the preparation of food for the sick.

CONTRACT FEMALE NURSES.

The first contracts with trained female nurses were made as early as May 10, 1898. During June, 21 women were on duty in the wards of general hospitals and on the hospital ship *Relief*. In July nurses immune to yellow fever were sent to hospitals in Santiago Province, Cuba, and during the prevalence of typhoid fever in our camps trained nurses were placed on duty, not only in the general hospitals, but in many division and post hospitals, and even in some regimental hospitals. The number of nurses under contract reached a maximum of about 1200 in September, 1898. The number in service July 1, 1899, was 202. In all, 1563 women have been under contract between May 10, 1898, and July 1, 1899.

HOSPITALS.

New post hospitals were completed during the year at Fort Hancock, N. J., Fort Snelling, Minn., Fort Point, Tex., Fort Morgan, Ala., and Tybee Island, Ga., and temporary hospitals at Fort Williams, Me., Fort Greble, R. I., Fort Mott, N. J., Morrowstone Point and Battery Point, Del., Fort Caswell, N. C., and Egmont Key, Fla. Additional wards were provided for the hospitals at Fort Thomas, Ky., and Fort Wayne, Mich., and new hospitals were authorized for Fort Slocum, N. Y., Plum Island, N. Y., and the new post near Seattle, Wash. General hospitals, each with a capacity of 1000 beds, were completed at Fortress Monroe, Va., and Savannah, Ga., and pavilion wards were erected in connection with the post hospitals at Washington Barracks, D. C., Jefferson Barracks, Mo., Fort Columbus, Fort Hamilton and Fort Wadsworth, N. Y. Various repairs and improvements were made to hospitals and quarters at a number of posts.

In addition to those mentioned, general hospitals have been organized at San Juan, Porto Rico, and at Havana, Pinar del Rio, Matanzas and Santiago, Cuba, and in both islands hospitals have been constructed or improved at the many military posts that have been established. In Manila four hospitals have been outfitted, and at San Francisco a general hospital has been established for the care of the sick among commands going to or returning from the Philippines.

HOSPITAL SHIPS.

The *Relief* and the *Missouri* have done excellent work between this country and Cuba and the Philippines. The *Aid*, formerly the *Bay State*, and the transport *Terry* proved unsuited for hospital purposes.

MEDICAL AND HOSPITAL SUPPLIES.

The operations of the supply department, which for some months were necessarily conducted under the pressure of the emergencies of the war, have gradually been brought into more regular and methodical action.

The regular medical supply depots at New York, St. Louis and San Francisco have been kept up. That at New York has supplied the troops in the northern and eastern portions of the United States, and also in Cuba and Porto Rico. Increased facilities were required to properly conduct the business of this depot, and a special building was hired for the purpose, to the great advantage of the Government. The depot in St. Louis has supplied the troops and garrisons in camps in the Mississippi Valley and portions of the country most convenient to it. Medical supplies for the Philippine Islands, with the exception of the large amount that was sent on the hospital ship *Relief*, which left New York March 2, 1899, have been furnished from the San Francisco depot. Medicines and most of these supplies were purchased on the Pacific coast, only articles of exclusively eastern manufacture being sent from New York and St. Louis. The uniform report from the Philippine Islands has been that medical supplies have been ample.

It has been my endeavor that the sick and wounded of our army should be supplied with every comfort and restorative, and the surgeons with every appliance that modern science would suggest in the treatment of disease and injury. Not only have supplies of all kinds allowed by the Standard Supply Table been freely used, but the individual preferences of surgeons have been indulged where there was reason to believe that benefit to the sick would arise from so doing.

RECRUITING.

The total number of men examined for enlistment during the calendar year 1898 was 71,250, white 66,237, colored 5013. The number accepted was 54,896, or 770.47 of every thousand examined. The ratio of accepted men was 770.79 for the white, and 766.21 for the colored. White men to the number of 22.74 and colored men to that of 16.75 per thousand declined enlistment. The rate of rejections on primary examination was 206.47 among the white and among the colored candidates 217.04, giving a mean of 207.21.

Among the recruits who fill up the ranks of our regular army there is usually a considerable number of men who are not native born. A few years ago Irish and German recruits constituted one-fifth of the total number accepted, or 200 of every thousand men. Recently the proportion of foreign born has been decreasing. In 1895 the ratio for each of these two classes of foreign-born recruits fell for the first time below 90 per thousand. In 1897 Germany furnished 74.53 and Ireland 74.30. During the past year, as a result of the military spirit pervading the country, the ratio of native born rose to 770.47 per thousand, while the proportion of naturalized citizens of German and Irish birth fell, respectively, to 47.98 and 34.74 per thousand.

HEALTH OF THE ARMY.

On account of the failure of some of the regimental surgeons while in Cuba to furnish reports for July and August, or to keep accurate and complete records of their sick for these months many of the lighter cases treated in quarters until return to duty have necessarily been lost to the record, but the medical histories of the seriously sick whose cases failed to be entered on the regimental reports were found in the records of the general hospitals in which they were afterward treated. A very fair representation of the sickness of the regular regiments has thus been gathered for tabulation in this report.

For pension purposes these medical records of the regular troops for the past calendar year are in excellent condition. Each entry on the various reports, regimental, field-hospital, transport, hospital-ship and general hospital has been carded, and the various cards relating to each individual have been brought together to show his medical history so far as reported by the medical officers who had charge of his case. To cover the medical history of the year over

100,000 histories had to be carded and are now arranged alphabetically in the files for ready reference.

I regret that I am unable to present a similar view of the statistics of the volunteer army, and hence of the army as a whole (volunteers and regulars). The Act of Congress approved April 22, 1898, which authorized the President to raise a volunteer force, required that at the close of the war the medical records of the volunteers be turned over to the Record and Pension Office of the War Department. No opportunity was afforded me to tabulate the statistics of these volunteer troops, as when the war ended many of the reports had not been rendered, and subsequently when they were received they were immediately transferred by me to the Record and Pension Office in accordance with the requirements of the law. I trust, however, that arrangements may ultimately be made which will enable me to submit hereafter as a supplement to this report a full tabulation of the medical and surgical statistics of the volunteer army during the Spanish-American War.

THE REGULAR ARMY.

The mean strength of the army for the first four months of the calendar year of 1898 was only 28,198, but subsequent to this the strength was increased to 65,681 in December, the mean strength for the year being 46,635.

The admissions to sick report were equivalent to 2146.94 per thousand of strength, or to somewhat more than two entries per man of the mean strength present during the year. Although this is greatly in excess of the ratio of admissions in 1897, 1186.61, and of the mean annual ratio of the decade 1887-96, 1243.39, the actual rate was undoubtedly much larger, for, as already stated some of the reports for July and August were not rendered or were evidently incomplete. This excess was due to various camp diseases which caused 1937.71 admissions per thousand of strength as compared with 896.53 in 1897. During the year 1898, in which so large a proportion of the regular army was engaged in active hostilities in Cuba the ratio of injuries was considerably less than in the previous years of peace. The ratio of admissions for injuries was 209.23 per thousand men present as compared with 290.08 in the previous year, and 257.16, the mean annual rate of the decade immediately preceding. The explanation of this is no doubt that in the field no note was taken of the slight cuts and contusions which form so large a proportion of the medical record of a post in times of peace. The ratio of nonefficiency or of men constantly disabled from injuries was in 1898, 13.74 per thousand, while in 1897 it was only 9.12, and during the previous decade 8.62. This shows the greater gravity of the cases in 1898.

The total number of deaths from all causes was 1285, equal to a rate of 27.55 per thousand men, while in the previous year the rate was 5.11, and in the years of the previous decade 6.99. The death-rate from disease was 22, and from injury 5.55.

The loss to the service by disability, from disease and injury, was equivalent to 30.23 days for each man of the mean strength, as compared with 13.08 days during 1897, and 13.14 days in the years 1887-96. It will be seen from the above that while the admissions during the year were nearly twice as many as in previous years the constant sickness was more than doubled, and the death-rate equal to that of the previous year multiplied by 5.4.

Malarial infection was reported to have been the cause of 32,393 admissions, or nearly one-third of the whole number taken on the sick reports, equalling 694.64 cases for every thousand men enrolled. Diarrhea and dysentery continued 14,166 cases, or one-seventh of the whole number taken sick; injuries 9758, or nearly one-tenth of the whole, but only 1457 of these were gunshot wounds, while 3787 were contusions, only one of which was fatal; typhoid fever 4130 cases, equal to 88.56 per thousand men; yellow fever 604 cases, or 12.95 per thousand, and venereal diseases 3727 cases, or 79.92 per thousand.

The largest item in the death-rate of the army was 9.74 deaths from typhoid fever in every thousand of strength. Gunshot wounds occasioned 3.94; malarial fevers 3.24; diarrhea and dysentery 2.14; yellow fever 1.50, and injuries other than gunshot 1.61, leaving 5.38 for distribution among all other causes of fatality to make up the total rate, 27.55.

The admission and death-rates in the Philippines, 2070.62 and 22.74, respectively, did not differ much from those in the United States, 2043.01 and 20.14; but the admission-rate was high in Porto Rico, 3350.78, compared with the death-rate, 41.45; and the death-rate high in Cuba, 98.16, compared with the admission-rate, 2631.76, the last rate failing as already explained to give expression to the facts. In Cuba there occurred 374 deaths, 127 of which were the result of gunshot wounds, 67 of yellow fever, 54 of typhoid fever and 50 of malarial fevers. In Porto Rico a total of 80 deaths included 44 from typhoid fever and 11 from malarial fever. In the Philippines typhoid caused 22 deaths, smallpox 6, and malarial and diarrheal diseases 5 each in a total of 66. In the United States there occurred 334 deaths from typhoid fever, 85 from malarial fever, 53 from diarrhea and dysentery, 46 from gunshot wounds, and 3 from yellow fever, in a total of 765.

MORTALITY STATISTICS.

The total number of deaths in our armies, including regulars and volunteers, from May 1, 1898, to June 30, 1899, was 6619, of whom 496 were killed in battle, 216 killed by accident, 202 died of gunshot wounds and wounds received in action, 2774 from typhoid fever, 476 from malarial fever, 359 from pneumonia, 342 from diarrhea and dysentery, and 185 from yellow fever. Many of the deaths can not be distributed among their causes until the medical records of the volunteer army are available for statistical study. The figures just given are, therefore, subject to material change when this study has been completed.

SANITARY CONDITIONS.

The sanitary condition of the permanent military stations in the United States varied greatly during the year. Prior to the declaration of war with Spain they were all in excellent condition, or in the gradual progress to improved conditions as a result of the judicious distribution of the funds appropriated year by year for this purpose. Early in the year several new posts were established and old and abandoned stations regarrisoned chiefly with a view to coast defense. In May, 1898, many undisciplined troops were aggregated at Fort McPherson, Ga., and other posts. The most insanitary conditions immediately prevailed and an epidemic of typhoid fever was inaugurated.

Again on the return of the regular troops at the close of the war the quarters at a number of posts became overcrowded. This was particularly so at Columbus Barracks, Ohio, which was used as a recruiting depot. An epidemic of measles at this post was greatly increased in malignancy, and several deaths from cerebrospinal meningitis resulted from the overcrowding and the bad conditions associated with it.

The volunteer troops suffered severely from typhoid fever in the home camps during the months of July and August. By removing them from the infected camps to sites specially prepared for occupation in Alabama, Georgia, Kentucky, South Carolina and Tennessee, the prevailing sickness was materially lessened, although disease was again introduced into many of these commands by the coming of newly-raised regiments seriously infected with typhoid fever.

In view of the difficulty experienced in learning through chief surgeons of corps and departments the sanitary condition and sick-rates affecting individual regiments in the field, temporary garrisons and detachments, on Dec. 31, 1898, I called on medical officers serving in the field, or at temporary stations, for a weekly sanitary report of the command with which they were serving, these reports to contain a reference only to existing insanitary conditions, and to be forwarded through military channels to the Adjutant-General of the army, after the manner of the monthly reports rendered from permanent post under A. R. 1393. The object of these weekly reports was to obtain prompt action by local authorities on such conditions as lay within their jurisdiction. They effected this object admirably in securing the removal of many faults in the sanitation of the camps, which would otherwise have had a powerful influence in augmenting the sick-lists of the army.

Since the occupation of Cuba by our troops in December, 1898, the percentage of sickness in the various camps and garrisons has been less than was anticipated, and, if we fortunately remain free from epidemic visitation, this percentage may be expected to diminish for some time to come, as the troops are now in barracks and have become somewhat accustomed to the climatic conditions. Measles, smallpox and cerebrospinal meningitis appeared at several posts, but generally the adoption of proper sanitary measures speedily controlled the disease. A serious outbreak of typhoid fever occurred among the troops at Puerto Principe, and this disease prevailed to a considerable extent in some of the regiments at Camp Columbia, near Havana, Cuba.

It is with pleasure that I report the passage of the yellow fever season of 1899 with the occurrence of so few cases of this disease, although our troops have been stationed within easy access to towns which are more or less infected. Medical officers were required to observe all fever cases with the utmost care, and to isolate any patient who had suspicious symptoms, and chief surgeons of departments were directed to select and recommend camping-grounds, and to urge that the commands be kept in a state of constant readiness to move should it become necessary to depopulate garrisons on account of infection. Occasional cases were reported at Guanajay, Camp Columbia, Sancti Spiritus, Matanzas, and Manzanillo; but there is a doubt as to the correctness of the diagnosis in some of these. A number of scattered cases occurred at Puerto Principe. It is evident from the history of these cases that the disease was contracted in the city and that the barracks remained free from infection: but for greater assurance of safety the entire command was removed to camp. At Santiago the adoption of proper measures succeeding in suppressing the outbreak, but not until 128 cases, of which 29 were fatal, had occurred among the troops. Among the victims of the outbreak were Capt. Paul Clendenin, asst.-surgeon, U. S. A. (Major, U. S. Vols.), in command of the general hospital, and Acting Asst.-Surgeon F. W. Fabricius, the pathologist of the hospital.

An epidemic of smallpox among the people of the Holguin district, of Santiago Province, was promptly suppressed by collecting and isolating the cases in pest-houses, burning or disinfecting all dangerous articles, and systematically vaccinating the people. None of the troops engaged in guard and police duty during the progress of this work became affected with the disease.

In Porto Rico the troops were scattered at a number of stations, usually in the neighborhood of towns. At some of these they were quartered in barracks formerly occupied by the Spaniards; at others buildings more or less suitable were rented for their shelter. At those which are expected to be occupied for some time improvements are in progress. Water-supplies have been improved and water-closets, baths, and sewers have been planned and constructed. Five military hospitals, turned over to us by the Spaniards, are in service at San Juan, Ponce, Mayaguez, Cayey and Aibonito, respectively, while temporary arrangements for hospital accommodations have been made at other stations. All are amply provided with the means for caring for the sick.

A most important sanitary work was undertaken and carried to a successful conclusion by the chief surgeon of this department. This was no less than the suppression of smallpox in the island by means of a general vaccination of the population. The work, begun in January, 1899, was carried on with energy and system until completed. The vaccine farm, which was established at Coamo Springs to provide the necessary lymph, was discontinued July 1, 1899.

That the sanitary arrangements on the transports which conveyed the Eighth Army Corps across the Pacific were in comparatively good condition, although hastily made, may be inferred from the fact that only 12 deaths occurred in the command of 22,462 officers and men during their long voyage, equivalent to an annual death-rate of only about 5 per thousand of the strength. These arrangements were greatly improved after the publication of the Regulations for the army transport service, Nov. 6, 1898.

After the capture of Manila the troops of this army corps were quartered in Spanish barracks, warehouses, public buildings, and private houses, all of which are represented in the report as having required much labor to put them into satisfactory condition. Malarial fevers, venereal disease and intestinal affections increased in prevalence week by week until December, when the heavy rains ceased. A notable improvement was then manifested, and, on Feb. 4, 1899, when the insurgents' attack was made, the command was considered to be in as good condition as when it entered the city in August, 1898. During this time cases of smallpox appeared in many of the regiments, and special care had to be taken in the vaccination of the men to suppress the threatened epidemic.

To care for the sick of the corps four large hospitals were established: the First Reserve Hospital in buildings formerly occupied by the Spaniards as a military hospital; the Second Reserve Hospital in a building formerly used as an academy; a small hospital at Cavite, and one for convalescents on Corregidor Island, the whole having a capacity of 1738 beds and being well provided with every-

thing needful for the treatment and comfort of the sick and wounded. That these hospitals were fully competent to meet the demands made upon them is shown by the fact that during the progress of active hostilities, in February and March, 246 Filipinos were received and cared for in the First Reserve Hospital.

During the attack on February 4, and the subsequent advance of our troops, the ambulance company did excellent service in bringing the wounded to the dressing-stations, from which they were promptly dispatched by rail to the First Reserve Hospital in Manila.

After the occupation of San Fernando, in May, the troops were reported by their medical officers as thoroughly exhausted by the hardships, exposures and deprivations of the campaign. The place had a local reputation as a health resort, but the sick-lists continued to increase and the sick failed to show signs of progress toward recovery. They were withdrawn to Manila, where a change for the better was speedily manifested.

Meanwhile, in anticipation of the return of the volunteer troops for muster out, a model camp for their reception was constructed at the Presidio of San Francisco, Cal. This consisted of conical wall tents, floored and heated by stoves, lavatories, bath-houses and improved sinks, kept in proper condition by hired labor. Similar camps were constructed for the accommodation of recruits and commands arriving en route for the Philippines, and the division hospital was expanded into a well-equipped, general hospital of 1000 beds. Suitable hospital provision was also made for a quarantine camp, established on Angel Island in the Bay of San Francisco. Satisfactory accounts of the condition of these camps have been received from medical inspectors.

WATER-SUPPLIES.

Speaking generally of these supplies I may say that our troops during the past year were amply provided in their various camps with water of excellent quality, and that in no instance was the rapid spread of typhoid fever in a command conceded to be due to infection in the general water-supply.

At the outbreak of the recent war the purity of water-supplies for troops in the field was a subject to which much consideration was given. What was desired was a sterile water, a water free from all bacterial infection. Boiling is the readiest way by which a drinking water may be sterilized, but it is difficult without special facilities to provide boiled water for a marching command and, moreover, many soldiers have a distaste for boiled water on account of its flatness from loss of the gases held in solution in the fresh water.

By a combination of an asbestos strainer and a filtering cylinder of compact infusorial earth, I hoped to be able to provide a means, at once portable and efficient for rendering an infected water harmless. This combination was sent to some of the commands for trial. Those sent to Camp Alger were not used because the deep wells sunk about this time in that camp furnished a plentiful supply of pure water. They were afterward brought into service at Camp Meade, Pa., not because the water there required this filtration, but with a view to familiarize the command with the method of using the filters. Some were used at Chickamauga Park, Ga., and a few were seen by my inspectors in company kitchens at Montauk Point, L. I. They answered their purpose very well when used intelligently and carefully handled. They were largely employed at those field hospitals which had to make use of surface waters, and occasional mention is made of them in reports from the temporary camps established on the occupancy of Cuba. Some time in August, 1898, the National Relief Commission of Philadelphia, Pa., sent to the troops in Porto Rico a number of utensils for boiling and aerating water, but no report was made on the practical value of the proposed system. In fact, nothing could be learned of the disposition made of the articles shipped.

After this I submitted the subject of the sterilization of water for troops in the field to a board of medical officers. This board reviewed the various methods suggested, and tested the apparatus presented by manufacturers, and in its report described and approved of a rapid and economical method of sterilization by boiling, the apparatus being known as the Waterhouse-Forbes Water Sterilizer. The heat given out by the boiled water is utilized in heating the entering water. The boiled and aerated water is delivered from the apparatus at a temperature only of 4½ F. above that of the entering water. I have recommended that a number of these sterilizers be sent out for practical test by troops in the field.

DISPOSAL OF EXCRETA OF CAMPS.

The danger of the propagation of typhoid fever and other infectious diseases from ill-conditioned and infected sinks or privy pits was well recognized during the past year. In fact, the sinks of our large camps were objects of solicitude before the camps were established. In a circular issued on April 25 I directed the attention of medical officers to the importance of this subject. On August 8, I again addressed these officers, and shortly afterward I made special publication of these paragraphs of the Manual for the Medical Department which give specific directions for dealing with infected sinks and cesspools.

As we now know the cause of typhoid fever and the physical and chemical agencies by which it may be destroyed, I had hoped that by making practical use of this knowledge we would have been able to avoid any great losses from this disease. That this hope was not realized I attribute to the inexperience of regimental medical and line officers in sanitary matters, and the want of discipline among the men.

During the movements of an active campaign, when a camp site is abandoned after an occupation of a few days, well-cared-for privy pits afford a simple and satisfactory means of disposing of the excreta of the command. When, however, the camp is one of some permanency, as is usual with camps of organization, recuperation, muster or territorial occupation, the danger from the use of this primitive system of conservancy is proportioned, other things being equal, to the size of the command and the duration of its continuance on the same ground. With cases of typhoid fever, dysentery, or camp diarrhea among the troops, the pits became foci of infection which make their influence felt throughout the whole of the camp. Disinfectants may and should be used, but experience has shown that a prompt and complete disinfection in these pits is difficult to carry out, and requires the most constant and intelligent supervision.

I am of the opinion that to avoid disaster in such camps and as an economical measure, money should be expended freely in their installation. I am confident that when a pure water is brought in, as it should be, in quantity to supply bath-houses, as well as kitchens and quarters, it would be a wise policy to make provision for the removal of the impure, used and waste water, and to utilize its discharge for the removal of the excreta of the command.

If, however, there is objection on the ground of expense, or otherwise, to the construction of a sewerage system, some method of disinfection and removal of the disinfected accumulations may be used to advantage. With the view of improving the sanitary condition of the camps then in progress of establishment in the Southern states, and of those expected to be soon established in Cuba, I suggested the use of a galvanized iron receptacle, to be placed beneath each closet seat, each receptacle to have a narrow trough 3 inches deep around the outside for the purpose of containing a disinfecting liquid, so that, when the cover is placed in position in the circular trough, the liquid will act as a valve to prevent the entrance of flies and the escape of foul odors, the discharges to be received into carbolic acid, quicklime, dry earth or ashes, contained in the receptacle.

Meanwhile as I considered the possibility of some better means of disposing of the probably infected excreta of camps of some permanency not provided with a sewerage system, I submitted the subject to the consideration of a board of medical officers by whom a trough system with removal by pneumatic pressure was recommended.

This system is now in successful use in the camps established at the Presidio of San Francisco, Cal., at Camp Meade, Pa., and elsewhere, and the results attained are very satisfactory.

FOOD-SUPPLIES.

The remarks of medical officers under the heading of food-supply and its preparation, in the Monthly Sanitary Reports from the posts in the United States, are of the most satisfactory character. Even from the troops in the field and those subsequently in garrison in Cuba and Porto Rico there have been few official complaints either of the character of the articles issued by the subsistence department or of the methods or results of camp cookery. At the time when the country was agitated over the quality of the canned roast beef and the refrigerated beef furnished to the troops in the field, there were on file in this office only two papers having a reference to the beef supplies. One was a statement concerning the poor quality of the native Hawaiian beef issued to troops at Honolulu, H. I., with request that refrigerated beef be provided instead. The second occurred in a report of a voyage made by the *Panama*, with sick and convalescents from Ponce, P. R., to Fortress Monroe, Va. The medical officer stated, incidentally, that the 720 pounds of refrigerated beef which he had received from the subsistence department had proved of great value to him during the trip. Concerning the quality of the canned roast beef, which was called in question toward the close of the year 1898, nothing need be said here, as the subject has already been thoroughly investigated. It may be mentioned, however, that for a time in May, 1899, during the occupation of San Fernando, P. I., report was made that the troops had been for a long period on the travel ration and that their health had no doubt suffered thereby. This was remedied as soon as reported, and no further complaint of this kind was made.

In fact, the general tenor of these reports is to the effect that the subsistence officers were eminently successful in having everything ready for issue when required, even in the trenches and on the firing line. The reports from Cuba and Porto Rico show the troops in these islands to have been as well provided for as those in the Philippines.

The only criticism made by medical officers, so far as I can gather, from their sanitary reports, is that for use in tropical climates the ration provides more of the hydrocarbons or fats than is needful, and that therefore these articles might with advantage be reduced in quantity, and the carbohydrates or starches and sugars to some extent increased. For my own part, with our system of company fund, I see no reason for making any special change in the ration. Those articles not used are credited to the men, and their money value can be used for the purchase of the articles that are found to be more desirable under existing conditions. Our present ration suffices for men under conditions of active service and extreme cold; it must therefore be sufficient under conditions which call for less heat production and for the expenditure of less energy, and thus give a company fund for the purchase of articles from the liberal supplies of the subsistence department, or from outside sources, that appear to be better suited for the occasion than the specified articles of the ration. I consider it wise, therefore, to be slow in suggesting alteration in the components of the ration until experience has shown just what changes are assuredly desirable.

But while it may not be advisable to make any change in the ration established by law, it is a matter of the first importance to determine what is the best *dietary* for tropical use, that medical officers may urge its adoption by company commanders and that subsistence officers may have its components always on hand for issue.

This subject is now prominently before medical men serving with troops in Cuba, Porto Rico and the Philippines, and their observations when submitted will no doubt be of considerable value to company officers in managing the domestic affairs of their commands.

In hospitals the 60 cent allowance for subsistence enabled medical officers to provide freely of every delicacy desirable for the sick. At few of these was the whole allowance expended. At the general hospital at Fortress Monroe, Va., the average expenditure per man during the months August to December, inclusive, was only 30 cents. At Columbus Barracks, Ohio, 38 cents provided sick diet—"ample in all its details." The present allowance of 40 cents will undoubtedly cover the needful expenditures in our hospitals generally, although in some exceptional instances where high prices prevail a larger sum may be desirable.

CLOTHING.

Most of the references to clothing in the sanitary reports have come from commands in Cuba and the Philippines. The blue uniform used in the United States was universally condemned as too heavy, and the woolen undershirts as occasioning much irritation of the skin from prickly heat. Canvas suits were represented as so stiff and heavy as to chafe the wearer until they became softer and somewhat pliant after repeated washings. A similar complaint was entered against some of the khaki issues. The campaign hat was condemned at first as too heavy. It was argued that the helmet used by the British troops in India gave the best protection for the head in tropical countries, on the ground that were this not so, the British would have discovered the fact long ago. But a longer experience with the campaign hat, particularly after the rainy season set in, showed it to have advantages not possessed by the other forms of headgear.

As the result of general experience it may be said that a light weight woolen undershirt is regarded as essential to prevent chilling of the body when damp with perspiration. Drawers should be of the same material, although some medical officers consider cotton to be preferable as cooler. A white duck uniform is recommended for garrison duty and the khaki suit for field service. As no reference to socks or shoes appears in the sanitary reports, it is inferred that these have given entire satisfaction. The desirability of having rubber clothing for use during heavy rains was expressed by a number of medical officers.

RECOMMENDATIONS.

The medical corps of the army, which was scarcely adequate before the war with Spain for our army of 25,000 men, is now entirely inadequate and should be increased as soon as is practicable.

Physicians and surgeons from civil life, however well qualified professionally, as a rule are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties can not be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life.

Many of the commissioned medical officers of the volunteer army and of the acting assistant-surgeons have made rapid progress in acquiring a knowledge of their military duties and have demonstrated their fitness for the military service. In filling vacancies in the medical corps these gentlemen should in my opinion have the preference when they come within the established age limit and they are able to pass a satisfactory professional and physical examination.

The value of the aphorism "In time of peace prepare for war," has received additional support during our recent experience. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the national guard as well as for those of the regular army; also instruction of line officers in the elements of hygiene and especially in camp sanitation. It should also include the establishment of camping-grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war a saving in lives and money would have resulted, which would, without doubt, have demonstrated the economy of such preparation for war in time of peace.

CONCLUSION.

Before closing this report I desire to express my appreciation of the intelligent and zealous devotion to duty which, with few exceptions, has characterized the officers of the medical department, both regulars and volunteers, and including the acting assistant surgeons.

I have been ably supported in the administration of the affairs of the medical department by Col. Charles H. Alden, assistant surgeon-general, in charge of the supply division of my office; Col. Dallas Bache, assistant surgeon-general, in charge of the museum and library division; Col. Charles R. Greenleaf, assistant surgeon-general, chief medical inspector of the army; Lieut.-Col. Charles Smart, deputy surgeon-general, in charge of the sanitary division; Major George E. Bushnell, surgeon, U. S. A., in charge of the hospital-corps division; Acting Asst.-Surgeon Anita Newcomb McGee, in charge of the Army Nurse Corps (female), and by the chief surgeons of the various military departments. The chief surgeons on duty in the Philippines, in Cuba and in Porto Rico have occupied especially responsible positions and have discharged their duties in a manner most creditable to themselves and to the department.

The clerical force of my office has been working under the strain of enormously increased labor since the outbreak of the war with Spain and has met the task with intelligence and fidelity. The chief clerk, Mr. George A. Jones, and the older members of the permanent force generally have been indefatigable in their efforts to prevent the work of the office from falling behind, and by sacrificing leaves of absence due them and working out of the official office hours, have to a great extent been successful in so doing.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., November 10-16, 1899, inclusive.

John R. Clark, acting asst.-surgeon, previous orders detaching him from the General Hospital, San Francisco, Cal., to accompany troops to Manila, P. I., revoked.

Carl R. Darnall, lieut. and asst.-surgeon, U. S. A., from the Division of Cuba to temporary duty in the Department of the East.

Calvin DeWitt, lieut.-colonel and deputy surgeon-general, U. S. A., from Fort Monroe, Va., to the Division of Cuba, as chief surgeon.

Henry C. Fisher, major and surgeon, Vols., to proceed by the transport *Logan*, sailing from New York City, on or about November 20, 1899, to Manilla, P. I., for duty in the Department of the Pacific.

Aubray F. Higgins, acting asst.-surgeon, from temporary duty with the 49th Vol. Inf., to Jefferson Barracks, Mo.

R. M. O'Reilly, major and surgeon, U. S. A., from the Division of Cuba to duty at Fort Monroe, Va.

Perceval S. Rossiter, acting asst.-surgeon, from New York City, to San Francisco, Cal., for duty in the department.

Julius A. Schuelke, major and surgeon 37th Vol. Inf., having tendered his resignation, is honorably discharged, to take effect Nov. 11, 1899.

Frederick H. Sparrenberger, acting asst.-surgeon, from New York City, to duty in the Department of California.

William C. Warmsley, lieutenant and asst.-surgeon 49th Vol. Inf., to join his regiment at Jefferson Barracks, Mo.

H. Brookman Wilkinson, acting asst.-surgeon, from Washington, D. C., to New York City, to accompany the 41st Vol. Inf. on the transport *Logan* for duty in the Department of the Pacific.

George A. Zeller, acting asst.-surgeon, from Peoria, Ill., to duty in the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending November 18, 1899.

Medical Director C. J. Cleborne, placed on the retired list of officers of the Navy from Nov. 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service; with the rank and three-fourths the sea pay of the next higher grade, under section 41 Navy personnel law.

P. A. Surgeon L. L. Young, placed on the retired list of officers of the Navy from Nov. 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service.

Asst-Surgeon H. E. Odell, appointed from Nov. 8, 1899.

Asst.-Surgeon J. S. Taylor, appointed from Nov. 10, 1899.

P. A. Surgeon R. G. Broderick, placed on the retired list of officers of the Navy from Nov. 11, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service.

P. A. Surgeon J. C. Rosenbleuth, sick leave extended two months.

P. A. Surgeon G. B. Wilson, detached from the *Constellation* and ordered to the *Dixie*.

P. A. Surgeon R. P. Crandall, ordered to the *Constellation*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending November 16, 1899.

Surgeon Fairfax Irwin department letter of June 16, 1899, granting Surgeon Irwin leave of absence for three months amended so that said leave shall be for two months only.

Surgeon H. R. Carter, to proceed to Port Tampa City, Fla., for special temporary duty.

Surgeon G. M. Magruder, to rejoin station at Memphis.

P. A. Surgeon Rupert Blue, department letter of Sept. 28, 1899, granting P. A. Surgeon Blue leave of absence for one month and eight days amended so that said leave shall be for 27 days only.

Asst.-Surgeon Taliaferro Clark, granted leave of absence for 15 days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General of the U. S. Marine Hospital Service during the week ended Nov. 17, 1899.

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Sept. 30 to Nov. 11, 5 cases.
Illinois Chicago, Nov. 4 to 11, 1 death.
Louisiana: New Orleans, Nov. 4 to 11, 1 case.
Massachusetts: Chelsea, Nov. 4 to 11, 2 cases, 1 death.
New York: New York City, Nov. 4 to 11, 1 case.
Ohio: Cleveland, Nov. 4 to 11, 3 cases.
Pennsylvania: Alleghany County, Sept. 28 to Nov. 4, 1 case, Pittsburg, Sept. 28 to Nov. 4, 1 case; Cimbria County, 1 case; Fulton County, Sept 28 to Nov. 4, 3 cases; Indiana County, Sept. 28 to Nov. 4, 1 case; Jefferson County, Sept. 28 to Nov. 4, 1 case; Philadelphia, Sept. 28 to Nov. 4, 3 cases; Cumberland County, Sept. 28 to Nov. 4, 6 cases.
Virginia: Portsmouth, Nov. 4 to 11, 2 cases, 1 death.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Oct. 7 to 21, 3 cases, 1 death.
Austria: Bohemia, Prague, Oct. 14 to 21, 4 cases.
Egypt: Cairo, Sept. 22 to Oct. 14, 2 deaths.
Greece: Athens, Oct. 14 to 21, 3 cases, 2 deaths.
India: Bombay, Oct. 3 to 10, 3 deaths; Madras, Sept. 13 to 28, 1 death.
Mexico: City of Mexico, Oct. 15 to 29, 15 cases; Vera Cruz, Nov. 2 to 9, 1 death.
Russia: Odessa, Oct. 14 to 21, 1 case; St. Petersburg, Oct. 14 to 21, 5 cases; Warsaw, Oct. 1 to 21, 9 cases.
Spain: Madrid, Oct. 7 to 14, 3 deaths.
Straits Settlements: Singapore, Sept. 7 to 14, 3 deaths.
Turkey: Erzeroum, Sept. 7 to 14, 1 case.
Uruguay: Montevideo, Sept. 16 to Oct. 7, 2 cases.

YELLOW FEVER—UNITED STATES.

Florida: Key West, Nov. 4 to 11, 6 cases; Miami, Nov. 6 to 14, 24 cases, 2 deaths; Port Tampa, Sept. 4 to Nov. 16, 10 cases.
Louisiana: New Orleans, Nov. 6 to 19, 1 case, 1 death.

YELLOW FEVER—FOREIGN.

Cuba: Havana, Oct. 22 to 28, 3 deaths; Santa Clara, Oct. 27, 1 death.
Mexico: Tuxpan, Oct. 23 to Nov. 6, 3 deaths; Vera Cruz, Oct. 28 to Nov. 3, 7 cases, 2 deaths.

CHOLERA.

China: Hongkong, Sept. 3 to 30, 36 cases, 33 deaths.
India: Kurrachee, Oct. 3 to 7, 2 cases, 1 death; Bombay, Oct. 3 to 10, 133 deaths; Calcutta, Sept. 23 to 30, 50 deaths.

CHANGE OF ADDRESS.

Bellamy, R., from Newport, R. I., to 210 W. 57th St., New York City.
Brown, G. R., from 2304 W. Madison St., Louisville, Ky., to 1245 E. 3rd Ave., Cincinnati, Ohio.
Bacon, J. B., from 4125 Drexel Boul, Chicago to Macomb, Ill.
Bursma, J., from Fremont to Sand Lake, Mich.
Bickford, E. L., from Longmont, Colo., to 1603 20th Ave., Seattle, Wash.
Dunn, B. S., from 419 Boylston to 1412 Beacon St., Boston, Mass.
Eskridge, J. H., from 4242 to 4166 Halsted St., Chicago, Ill.
Ferguson, J. P., from 2438 to 2408 W. Market, Louisville Ky.
Freeman, C. R., from Philadelphia, Mo., to Murphysboro, Ill.
Gibbs, M. D., from Whitehorn to 106 S. 6th St., Victor, Colo.
Hornor, L., from Ponca City, O. T., to 1043 S. Emporia Ave, Wichita, Kan.
James, W., from Chicago, Ill. to Solon Springs, Wis.
Kniffler, O., from 1910 5th Ave. to 631 Clyde St., East End, Pittsburg, Pa.
Perry, T. B., from U. S. Marine Hosp., Stapleton, L. I., N. Y., to U. S. Marine Hosp. Ser., Titusville, Fla.
Pendergrass, W. C., from Visalia to Le Grand, Cal.
Risley, S. D., from 1722 Walnut to 1824 Chestnut St., Philadelphia, Pa.
Rowe, S. B., from 719 Pine to 3404 Franklin Ave., St. Louis, Mo.
Roadman, J. M., from Excelsior to 131 W. College Ave., St. Paul, Minn.
Sampson, C., from Provo City, Utah, to Oakland, Neb.
Stewart, D. D., from 108 S. 17th to 1429 Walnut St., Philadelphia, Pa.
Skinner, ——, from St. Thomas, to 57, E. Market St., Chambersburg, Pa.
Smart, W. M., from Muskegon, Mich., to San Diego, Cal.
Thomas, J. H., from McGregor to West, Tex.
Townsend, S. J., from Paton, Iowa, to Box 1025, Las Vegas, N. M.